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ABSTRACT

This yearbook contains addresses and discussion group reports from the fifth annual meeting of the Southwest Reading Conference for Colleges and Universities. Part 1 includes addresses which consider: definitions of reading, psychological explanations of reading, the sociology of reading, recent research in college reading, reading and semantics, current goals of college reading programs, defining the reading needs of college students, current goals in college reading programs, and other topics. Part 2 includes discussion group reports which focus on: goals and techniques used in adult reading programs, reading improvement in business, physical, visual, and auditory disabilities in relation to reading, junior college and small college programs, clinical programs, and diagnostic techniques and tools. An appendix contains an annotated bibliography of college reading materials, a report from abroad, and a report on college reading programs in the nation. (LL)

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EXPLORING THE GOALS OF COLLEGE READING PROGRAMS

The

FIFTH YEARBOOK

of

The Southwest Reading Conference

for

Colleges and Universities

Edited by
Oscar S. Causey
Texas Christian University

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PREFACE

The title of this volume, "Exploring the Goals of College Reading Programs," was the theme of the fifth annual meeting of Southwest Reading Conference for Colleges and Universities which was held December 1-3 at Texas Christian University.

The themes, and hence the titles of the yearbooks, of the first three annual meetings related to planning and improving college reading programs. The theme of the fourth annual meeting and the title of the yearbook was "Evaluating College Reading Programs."

At the first four meetings there were studied, analyzed and evaluated the following: reading problems relating to organization and administration of reading instruction, counseling, populating courses, improving reading skills, vocabulary development, methods and techniques, use of instruments and other teaching aids, length of courses, college credit, faculty interest in improvement of reading, research, student reaction to courses, testing, and effects of reading improvement upon grades in academic courses.

A number of persons who had been working in the conference expressed the feeling, in the course of and following it, that in order to clarify further the goals of reading instruction careful consideration should be given to some of the more basic psychological and sociological and educational principles underlying sound instruction designed for improvement of reading ability of college students.

A careful examination of the reading act and identification of reading needs of students seemed to offer the best approach to exploration of the goals. This volume brings to the reader the manuscripts of authors who accepted the task of making a contribution to further clarification of the goals of reading instruction.

Oscar S. Causey

WHAT IS READING ?

Ralph C. Staiger

Mississippi Southern College

Reading means different things to different people. Missionary Frank Laubach has told of the reverential awe in which primitive people hold the ability to read; how different are the attitudes of the tired businessman who peruses his evening paper, the student who is reading against time for a "book report," or the professional actor reading Dickens' **Christmas Carol.**

Reading means different things to the same person at different times. Our same student deading a letter from his girl friend views the process quite differently from his "book report" reading, just as the businessman reads a large order for his merchandise in a different way from his daily newspaper.

It would be quite pointless to answer the question "What is Reading?" by listing all the possible meanings of the word or by using dictionary definitions. Those of us who have a responsibility for teaching reading, however, must be con-

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scious of its complexity, alert to the various uses of the word, and cognizant of the dangers of misinterpreting the meaning of reading.

The shallow definition of reading in a recent book attacking modern teaching methods was one of the disturbing features of the book. Although the modern concept of reading is quite different and more comprehensive than is this best-selling author's, the book-buying public apparently was not disturbed by the discrepancy, for the book was high on the list of popular books for many months. Perhaps the reason for the public's being misled was the fact that many persons who have given little thought to reading have the same belief: that the pronunciation of words is complete evidence of reading. It appears logical to them, is half-remembered from their own school experiences, and so is accepted as true.

Reading specialists have given much thought to the nature of reading, and have evolved in the literature some fairly comprehensive statements. But reading is such a catholic tool that other specialists have analyzed the process from their own points of reference. The reading specialist's orientation in general is a psychological one, or derived from the psychological discipline through schools of education. It is centered on the individual who reads. The linguist's orientation is toward the language which is being read rather than toward the individual who reads. The sociologist is interested in the effect of reading upon a culture, and so has another vantage point from which to make his analysis of reading. The man of letters is often more concerned with the material read than the reader or the reading process.

We all know the Hindu folk tale about the blind men who tried to describe an elephant. From each vantage point, the elephant appeared different. The man who held the beast's leg thought he resembled a tree; the tail reminded another of a snake, and so forth. Let us look at reading as it appears to serious students who have different frames of reference: the psychologist-teacher, the linguist, the sociologist, and the man of letters.

In general, the reading specialist has a complex stimulus-response concept of reading. The response depends upon the interaction of the stimulus and the reader's background and experiences, and is basically a reasoning process. Thorndike first expressed this concept in 1917, when he observed children's oral reading of paragraphs. He concluded that "understanding a paragraph is like solving a problem in mathematics. It consists in selecting the right elements of the situation and putting them together in the right relations, and also with the right amount of weight or influence or force for each. The mind is assailed, as it were, by every word in the paragraph. It must select, repress, soften, emphasize, correlate and organize, all under the influence of the right mental set or purpose or demand." (9,p. 329)

Reading as reasoning has become widely accepted by educators since Thorndike's original observations. In its successive yearbooks on reading the National Society for the Study of Education has upheld this concept. In the latest yearbook on elementary school reading, this was the committee's conception of the reading process:

> "Reading is not a simple mechanical skill; nor is it a narrow scholastic tool. Properly cultivated, it is essentially a thoughtful process — It should be developed as a complex organization of patterns of higher mental processes. It can and should embrace all types of thinking, evaluating, judging, imagining, reasoning, and problem solving." (4, p. 3)

The semanticist emphasizes the importance of proper responses to stimuli by understanding the real significance of the words which make up the stimuli. The reader must differentiate between the verbal representation of an object and the object. He must avoid confusing a symbol with the same symbol when it represents something else; he must index each symbol. The semanticist goes so far as to suggest that the confusion of symbols is responsible for many of the difficulties of mankind. Actually the semanticist's concept of reading is a stimulus-response one, with emphasis on the need for carefully evaluating the stimuli.

It cannot be assumed that the concept of reading held by specialists is that used throughout our schools, for the ideas of leaders in a field are often different from the practices of rank-and-file members. In Gray's study of one hundred classrooms which he visited in 1948 (5), he found that about 30% still conformed to pre-1900 reading instruction: emphasis on the mastery of words recognition skills as evidenced in oral reading. In about 40% of the classrooms, the elementary aspects of silent reading were being developed, while 20% were providing guidance in reading in various content fields. This was advocated from 1910 to 1930. About 25% of the classrooms conformed to the broad definition of reading instruction which had been outlined in the 1937 yearbook of the National Society for the Study of Education; only five percent of the schools visited had attained the broad conception of reading and utilized the highly functional type of teaching which the leaders in the field had advocated in the N.S.S.E.'s 1948 yearbook.

If the definition of reading specialists is at variance with actual practice in schools, we can blame the difference on the lag between a statement of improved teaching methods and acceptance of that practice. We know enough to do a far better job of teaching reading than is being done in our schools. It is necessary that administrators, parents, and individual teachers do everything they can to take up the lag between the reading specialist's concept of reading and current practice in more than 5% of the schools.

While the teacher-psychologist's frame of reference is basically what reading does to the individual, the linguist is more interested in the characteristics of the language being read. Language, to the linguist, is the systematized set of **vocal** habits by which the members of a human society interact. It is basically vocal, and so the linguist who studies it is interested in determining and describing the oral language "code" of a group of people. When he considers reading, he views it as the written representation of speech.

The linguist views the meaning of a word as a learned response to a vocal utterance. Soffietti has published an excellent presentation of this point of view, and contrasts the two positions we have discussed with this sentence: "While the reading specialist is inclined to say that 'the printed word merely acts as the trigger that releases a meaning we already possess,' (6, p. 36) the linguist believes that the printed word acts as the trigger that releases its oral counterpart, which, in turn, releases a meaning we already possess." (8, p. 69)

Soffietti says further that the vocalization or subvocalization which preceded or accompanied writing is reproduced in the reading process so far as the reader needs to come to a meaningful conclusion. Thus speech cannot be bypassed, since it is an integral part of the learning, thinking, and conceptualization process.

Somewhat earlier Bloomfield expressed some of these ideas, and offered as a solution to the difficulties of learning to read in English a general plan, based on the development of reading skills according to complexity of the sound system. Soffietti agrees in the main with this plan. The acquisition of what he called "the alphabetic habit" is the first phase. This is essentially a matter of associating common sounds with letters. Gradually, more complex and irregular words are to be introduced. They are introduced as wholes, for this is not a synthetic or analytic system of "phonics," which Bloomfield deplored as "a confused and vague appreciation of the fact that letters and sounds are related. (2, p. 129)

It can be seen that the linguist is primarily concerned with the relationship between the sounds of language and its written form, and that Bloomfield and Soffietti relate reading directly to oral language. The highly imperfect and arbitrary English spelling system is considered merely a stumbling block which can be overcome. In more phonemically perfect languages, this stumbling block does not interfere, they say, and Soffietti presents an excellent analysis of Italian phonemics to illustrate this point. (8, p. 71)

It appears that Soffietti has fallen into the very trap which, he says, linguists avoid. He specifies, "while the (reading) specialists are interested in the many physiological, psychological and social **variables** that influence the child's reading readiness and ability, the scientific linguist is mainly interested in the one **constant** that is involved in the reading process, the language. The writer suggests that when the languages studied have extremely variable orthographic systems, the languages are no longer comparable, from the point of view of teaching children to interpret their written forms.

While the linguist studies reading as it pertains to the sounds of language, and the psychologist-teacher concerns himself basically with the individual's complex responses to the stimuli of reading, the sociologist views reading as a form of communication whose social efforts need constantly to be reported and examined. Five major factors to which any "social effect" of reading may be attributed are discussed by Waples, Berelson and Bradshaw in their book **What Reading Does to People.** (11):

1. The social context, which explains the publication of some writings and the nonpublication of others.
2. The methods of distributing publications, which explain the variations between what people like to read and what they read.
3. The difference among publications themselves.
4. The presdispositions of the readers, which explain why the same publication will incite one reader to action, will lead another to condemn it, and will be ignored or read with apathy by a third.
5. The reinforcing influences of other media.

The cultural heritage is to a considerable extent passed on and changed through reading, says the sociologist, although many other factors enter into the picture. The daily newspaper is characteristic of the mass media which bring news of the world, and act as a medium for the interchange of ideas; for its contents can be reread, discussed, argued about. But much of what appears in newspapers is organized gossip, according to Cooley. (3) It is designed to occupy, without exerting the mind, and consists mostly of personalities. It appeals to superficial emotion, and is untrustworthy, except upon a few matters important enough for the reader to follow up and verify. Reading a newspaper results not primarily in learning, but is rather a matter of being influenced. The sociologist is concerned with the reasons for this influence and the means by which society is influenced, whether the reading is done in a newspaper, periodical, book, or sign. He is interested in reading as one of the many means of social intercourse, whether it be on an individual or mass communication basis.

Men of letters, as a group, represent many different attitudes toward reading. There is no single discipline which guides their attitudes, and standardizes their ideas. This is, of course, to our advantage, for intellectual freedom has often produced the greatest literary works. But there is a great range of ability among members of the literati, and what reading means to some of the lesser lights does not concur with the ideas of the literary great.

The professional worker in literature is likely to be partial to certain emphases when dealing with reading. The inspiration which he receives from reading is likely to loom large in his mind. Holbrook Jackson expressed this attitude when he said "Reading is an adventure, when you go with the poets into the realms of fancy and imagination; you see life with the novelist; you go down to the sea in ships and unto the ends of the earth with the great explorers; the scientist takes you into his laboratory; in biography you are let into the mystery of men's lives; the historian reconstructs the past and gives you glimpses into the future, and the philosopher gives you a glimpse of his wisdom." (7)

John Keats expressed his poetic reaction in "On First Looking Into Chapman's Homer."

"Then felt I like some watcher of the skies
  When a new planet swims into his ken;
Or like stout Cortez when with eagle eyes
  He stared at the Pacific . . ."

Lin Yutang regards the discovery of one's favorite author as the most critical event in one's intellectual development. He considers flavor and taste as the key to all reading, and says that it follows that taste is selective and individual, like the taste for food. Lin, it can be seen, believes in reading as an individual art, and completely precludes the idea of reading as a duty or as an obligation.

All literati do not concur with Lin Yutang. Our heritage in print will linger and die, they say, if the great books are not read by all. Lin answers that what is one man's meat may be another's poision, and cites Yuan Chunglang who suggests that you can leave the books that you don't like alone, and let other people read them.

When the literati are scholars, the emphasis may no longer be upon inspiration. Analysis, comparison and cataloguing became the reasons for reading. The value of such scholarly endeavors is beyond doubt, and the labors of true seekers are not questioned. But in the hands of the lesser literati, the tools of the scholar are often badly misused.

James Thurber's English teacher, Miss Groby, is a deadly caricature of some litterateurs who "never saw any famous work of literature from far enough away to know what it meant." He says of her, "Night after night . . . Miss Groby set us to searching for metaphors, similes, metonymies, apostrophes, personifiction, and all the rest. It got so that figures of speech jumped out of the pages at you, obscuring the sense of the novel or play you were trying to read." (10, p. 31)

Although Miss Groby is drawn with a broad brush, we cannot deny that some persons are more interested in the minutiae of what is being read than whether communication is taking place. There is a need for critical reading, but Miss Groby's concept of critical reading is not as sound as Richard Altick's: "When a reader finds out not only **what** is being said, but also **why** it is said, he is on the way to being a critical reader as well as a comprehending one." (1, p. 11)

Another direction which the man of letters may take in his consideration of reading is the aesthetic appreciation of style and diction. Again, this personal reaction is a wonderful experience — for those who can enjoy it. Perhaps the greatest mistake which men of letters make is that of expecting everyone to derive from reading the same inspiration, the same pleasure of scholarly discovery, or the same appreciation of diction and style as they themselves do. This has been the downfall of many a student, and will doubtless continue to plague our future scientists, engineers, and other non-literati for some time to come.

What is reading? It is chameleon-like in its changes, and yet each person who thoughtfully prepares a definition has a correct one, as far as it goes. The psychologist, the linguist, the sociologist, and the man of letters all have valid reasons for their points of view. Perhaps the important thing for each of them to do is to sometimes use the other man's vantage point, in order to get a wellrounded understanding of what reading can and does mean, and so avoid the narrow interpretation which comes from being so close to the elephant that you can touch only one part of it.

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PSYCHOLOGICAL EXPLANATIONS OF READING

George D. Spache
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The psychology of reading is much too broad to be treated adequately in a brief discussion such as this. For this reason, this presentation will be confined to a consideration of the chronological changes in our concept of the act of reading. Such topics as the physiology of reading, or the contribution of physical factors which influence readability (as illumination, length of line, the hygiene of reading etc.) will necessarily be omitted.

There has been a gradual modification of ideas regarding the nature of reading or the reading act. From the middle of the 19th century, when scientific investigation of reading really developed, until 1910 or thereabouts may be considered a period of emphasis upon the physiology of reading. During this period reading was considered basically a perceptual act — a matter of quick recognition of words. Diagnoses of difficulties in reading took the form of examination of the physical and particularly the eye-movement characteristics of the non-learner. Handedness, eyedness, studies of the movements of the eye when reading, mirror-reading or mirror-writing tendencies, and similar physical elements were commonly investigated. Stubborn or complex cases which did not readily fit the common pattern of diagnosis were confused with aphasic conditions and labeled "word-blind" or ineducable.

Remedial work consisted largely of rote memorization supplemented at first by flashcards and crude laboratory quick-exposure devices. Mechanical developments of an eye-movement camera and improved versions of the tachistoscope permitted refined diagnosis of the eye-movements and supported remedial training intended to increase both the speed and span of word recognition. Some experimenters even modified the printed page in the hope of retraining the fixation habits of the reader by using columns of numbers, words or phrases, or by guiding fixation points by asterisks or vertical lines running through the page. Success in reading was considered largely a reflection of physical and inherited traits which could be modified best by physical or medical means.

In the elementary classroom, teaching practices showed their dependence upon this early concept of reading. The use of an alphabetic method was succeeded by a rote word method, and still later by an ultra-phonic approach in which the pronunciation of each word was carefully denoted by diacritical marks. The almost exclusive use of oral reading, or what was really word-calling, further demonstrated the belief that reading was essentially a perceptual or word recognition task.

Some of the basic psychological facts derived from the studies of this period may be summarized as follows:

1. Reading is performed in a series of short, quick movements and fixation pauses rather than one continuous sweep across the page. (7)
2. The number of words, phrases or letters recognized during the fixation pause reflects the reader's familiarity with the reading matter, the difficulties which he encounters in word recognition or assimilation of ideas, as well as the physical characteristics of the material read.
3. These eye-movements do not occur line after line in a fixed pattern because of the influence of the factors mentioned above. There is, however, a tendency for the individual to form ocular-motor habits which tend to persist in many reading situations.
4. In addition to the usual forward and regressive movements, there are apparently other horizontal and vertical adjustments such as convergence of both eyes on the fixation point, irregular excursions in either direction, and slight compensatory movements. These divergent and compensatory extra eye-movements may be related to muscular imbalance and difficulties with fusion or binocular coordination. The significance of these minor movements may be judged from the fact that incoordination and fusional difficulties are considered real handicaps to effective reading in most studies of the vision of poor readers. (10,11)

Although the emphasis was upon a mechanistic interpretation of reading, the research thinking of this period revealed some facts which led inevitably to a modified definition of the reading act and to changed practices in teaching the skill. It was recognized that mature reading was a relatively progressive, fluent process. Eye-movements were fairly regular and consistently progressive except when interrupted by difficulties of the comprehension of an idea, epitomized in a word-symbol or a complex phrase. Reading was not merely a series of word recognitions since fixation points did not correspond to word wholes. In other words, the eye-movement studies showed clearly that mature reading was really an act of synthesizing ideas not an analysis of words or letters. This process was even more obvious in silent than in oral reading.

Logically then instruction in reading should stress as its ultimate goal the comprehension of ideas and the growth of skill in silent reading. The primary steps would necessarily involve training in quick recognition of words. But even at this level, recognition should probably be promoted through the use of minimal clues such as word length, or shape, or context rather than by sound or letter recognition. Thus the mechanistic analysis of the act of reading led directly to a broader interpretation of the psychological nature of reading.

Beginning approximately in the second decade of this century, the concept of reading gradually shifted to one emphasizing comprehension. A number of investigations began to stress the major significance of reasoning in reading. (12) Various ways of learning to read, methods of teaching beginning reading, and the values of phonics were critically evaluated in numerous studies. During the period of the First World War, measures of reading achievement received a tremendous impetus. For the first time, reading tests emphasized comprehension of silent reading as much if not more than rate of reading or skill in word recognition.

Classroom practices reflected the current emphasis upon comprehension by stressing such abilities as selecting main ideas and supporting details, grasping the ideas offered by the author, and answering questions about content. A clear-cut distinction between silent and oral reading was formed with increasing use and emphasis upon the former. Different objectives were formulated for these two reading situations, and appropriate materials and teaching procedures gradually evolved.

Among the major facts established by the research of this period are the following:

1. The rate of recognition in reading begins to surpass the rate of articulation in about the fourth grade. In other words, depending upon the method employed, children are able to read more rapidly silently by the fourth grade

or earlier and this type of reading should be given increased emphasis at this time (8).

2. There is a tendency to carry on inner speech involving movements of the lips, tongue or larynx when reading silently.
3. These movements tend to disappear or, at least, to diminish with increasing proficiency in reading. There is some question whether these movements are essential to the reading act. Some authorities hold to the theory that recognition of meaning in reading cannot occur without some form of inner vocalization. Others believe that inner speech is an outcome of current methods of teaching reading and is a deterrent to rapid silent reading.
4. The span of perception in tachistoscopic exposure has been determined for adults as four or five unrelated words varying from 16 to 25 letters. This span is about one word larger when meaningful material is used. Wide individual differences are present which may be modified somewhat by training.
5. The number of words or letter recognized during the fixation pause has been measured by photographic studies. This span of recognition, as it is called, ranges from one to two and one-half words. This span is related to the factors of intelligence, rate, comprehension, vocabulary, etc. and not to visual factors, such as limitations of peripheral vision.
6. The exact process by which words are perceived is not yet entirely clear. One point of view is that the context provides a mental set necessary for the recognition of words. Another, that the word is the unit and that its total form is the distinguishing characteristic. Still others hold that significant letters act as cues to the word. In all probability, among mature readers, all three of these aids to word recognition function simultaneously.
7. Comprehension is essentially a synthesis of the ideas presented by the words of the selection. It involves the organization and analytic treatment of ideas characteristic of, thinking of the higher orders.
8. Comprehension is, in a sense, dependent upon the extent and richness of the meaning vocabulary of the reader and his reading backgrounds (6).
9. Vocabulary development is influenced by such major

factors as capacity to learn, nature of cultural environment, reading interests, and kind of instruction received. Direct methods of promoting vocabulary growth were found superior to incidental (5).

These facts tended to confirm the desirability of the early emphasis upon silent reading, and to induce teachers to try to combat vocalization during silent reading. They reinforced teachers in their efforts to help pupils use the maximum span of recognition of which they were capable. They promoted the teaching of multiple approaches to word recognition. Beyond these specific contributions to methodology, the research of the 20's led to the recognition that training in comprehension really involved the promotion of critical thinking — the making of judgments, the drawing of inferences, and the formulation of conclusions based upon many sources. The concept of the psychological nature of reading gradually changed from one involving mere retention or recall of facts to interpretation and evaluation of the facts as offered by the writer.

The next twenty years of research in reading, during the 1930-50 period, further broadened the new definition of the act of reading. Critical, flexible reading was emphasized during this time in the attempt to promote growth of the abilities to judge the coherence, the worth and the effectiveness of the author's presentation. The reader was urged to apply the ideas gained through reading to the solution of problems, and to attempt to fuse these ideas with his previous experiences. Reading was conceived of as a tool leading to new insights, clearer understandings and improved patterns of thinking and behavior (4). As Gates phrased it, "Reading instruction is not completed until each pupil develops an interest in reading to solve problems, to secure information, for vicarious experience and for leisure activities" (3).

A second emphasis appeared during this twenty-year period upon the necessity for differentiating reading performances according to the purpose of reading and the nature of the material. Many studies stressed the need for training in different ways of reading under different conditions. Other studies by photographic techniques and comparison of reading performances in such skills as rate, vocabulary and comprehension confirmed the fact that mature, skillful readers differentiate their approach according to purpose, nature and difficulty of the reading material (2).

A third trend in the research in this period was that toward factor analysis of the content and processes in various reading tests. Attempts were made to identify the elements of comprehension by several experimenters. Their findings were influenced, of course by the nature of the reading tests or situations chosen for analysis, but there was considerable agreement in the various results.

During these years, we also witnessed a regression to the perceptual emphasis upon reading among many workers in the field of reading. Stimulated by the experiments in the armed services in inducing quick recognition of enemy aircraft and warships, there was a revival of efforts to promote more rapid reading by mechanical means. This led to a great deal of emphasis upon rate of reading in schools and reading clinics despite the conflicting evidence that increased speed would most likely result in decreased comprehension. The stress upon improvement of general rate of reading and that upon adapting rate to purpose and difficulty of the reading matter were in direct conflict with each other. These contradictory ideas have not been entirely resolved to this day although there has been a modification of the extreme positions of both antagonists. Those emphasizing rate training have lessened their claims for this approach and tend now to stress the motivational values of mechanical devices rather than their ability to produce rapid, large or permanent increases in speed of reading. Those formerly opposed to any devices are acknowledging the same motivational value and the possibility of rate improvement in specific types of reading situations by moderate use of such devices.

A few of the facts derived from the research studies of this twenty-year era are:

1. Very little is known of the nature of the mental processes involved in reading for different purposes, the conditions which promote growth of these abilities, or the most effective types of instruction. Most of the training now offered in critical reading is based on logical grounds rather than established fact. It is in effect an attempt to teach individuals how to think and we do not know exactly how to do this.
2. There may be a marked relationship between the reader's ability to associate words and ideas and his rate of reading. The two or three available studies do not entirely agree but result in raising the question whether all in-

dividuals are necessarily capable of improving their speed of reading (1, 13).

3. Analysis of reading tests agree generally in finding the three factors of vocabulary or word meaning, the verbal factor or intelligence, and the reasoning factor or seeing relationships. Other elements appear to be perceptual, verbal fluency, and in one study, chart-reading (14).

The more that reading instruction stressed training in how to think, the more apparent it became that such instrucion was attempting to modify the entire life of the individual. Training in how to think or read was really training in how to live. Thus the ultimate goal of reading instruction was the modification of the personal and social adjustment of the reader.

This concept that, as Olson puts it, "Reading tends to be one aspect of the growth of the child as a whole," (9) has become the current psychological explanation of reading in the present era beginning with 1950. Success in reading is seen as markedly affected by the attitudes, feelings, prejudices and general adjustment of the reader. Remedial work may well take the form of modifying the adjustment of the reader, with or without actual instruction in reading techniques. Therefore, remedial efforts may include or consist entirely of various types of psychological or psychiatric therapies. Thus the ultimate goal of all current reading instruction and remedial work is to aid the pupil in using reading as a tool for personal growth toward a richer, fuller life in every respect. Reading is now seen in what we believe is its proper perspective. It is not simply a process of successive word recognitions, nor just comprehension of the facts. It is more than a judgemental reaction to the author's style and content. It is an integration of the concepts, and hence attitudes, derived from reading with the reader's other experiences into a philosophy and way of life.

We have tried to show that the concept of the psychological explanation of reading has shown steady progress during this century toward broader and broader interpretation. Unfortunately, practices in the classroom and clinic have not kept pace with this thinking. There are still a number of practices which refer back to earlier ideas about the nature of reading than the present "adjustment" definition. We still see oral reading in the barber-shop circle used in many schools as the only possible approach to primary reading. Progress of children is still often measured in terms of their learning the "core" vocabulary of a single basal series as though the entire purpose of reading instruction was the memorization of a stock of such words. Devices for inducing more rapid reading, regardless of the effect upon comprehension or organization of ideas, are widely employed. Workbook materials at all levels tend to emphasize detailistic reading for main ideas, details, conclusions, etc. and apparently make the assumption that repeated reading in this atomistic fashion produces intelligent, critical comprehension. Much of the reading instruction we see in classrooms of all levels is concerned with the speed and accuracy with which the reader handles a certain kind of reading matter, rather than with his flexibility of approach, or the intelligence he shows in adapting his reading performances to his purpose and the nature of the material. Stress is placed on speed and routine comprehension rather than intelligent integration and application of the ideas gained through reading. The lag of classroom practices behind psychological theory probably indicates that much of our efforts for the next decade or so should be placed upon improving our instructional procedures and relating these more closely to current explanations of the psychological nature of reading.

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THE SOCIOLOGY OF READING

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Psychology and sociology are closely allied fields. As they relate to the reading process, the primary difference between them is that sociology emphasizes the nature and function of human groups while psychology is most concerned with the nature and function of the human individual. Since an individual's interpretation of what he sees on the printed page is greatly influenced by the human groups and institutions with which he has been associated, reading is very much a sociological phenomenon. Thus, to a large extent a psychology of reading is also a sociology of reading.

As we study the relationships between human groups and the reading process, we find a two-way effect. First, our interpretation of what we read, in fact our very readiness to **learn** to read, is largely a function of those human groups and institutions with which we have been associated. And of course the ideas and information that the members of a group acquire from reading influence the character of the group itself.

Reading should not be defined merely as the gaining of information from the printed page. Such a definition implies that the printed page rather than the reader is the critical determinant of what happens during the reading process. Reading is **not** a process of absorbing. Reading is our best example of a perceptual or thinking process. Reading involves not only the fluent, accurate recognition of words but also the fusion of their specific meanings into our own pattern of related ideas.

Since much of what the reader takes to the printed page has been acquired from his experiences in living with others, reading at its highest level is a sociological interaction between those social groups that have contributed to the experiences of the reader and those groups that have contributed to the experiences of the writer of the printed page. What each reader gains from the printed page is determined as much by what he, himself, takes there as it is by what the writer has placed there. No two persons "read" a given selection in the same way, and the extent to which they differ in reading that selection is determined largely by the extent of differences in their prior life experiences.

Each reader takes to the printed page as a key part of his reading process his own experiences in his home, his school, his church, and his community. Thus, to the extent that the quality of his thinking and the information that he possesses have grown from the institutions and groups that have influenced him, reading is a sociological process.

The word or the sentence on the printed page does not, in itself, convey meaning to us—it merely **suggests.** The printed page stimulates us to react—to think. What meaning finally occurs depends on our own past experiences.

The problem of obtaining meaning from reading is rather cruel in its implications. The child or adult who carries most to the printed page gains most, and the one who carries least gains least. Thus the bright and the dull emerge from the reading experience further apart than they were before.

Although the sociological basis of the reading process has many ramifications, the present discussion will be concerned with but three of the important relationships between sociology and reading.

First, our ability to read and think is highly dependent upon the primary social group from which we came. In fact, the very vocabulary with which we do our reading and thinking has numerous sociological determinants.

Second, the way we react to what we read, and even our choice of what to read, is governed in part by our attitudes, and these in turn result from the attitudes of our family, our church, our school, and our community.

Third, experiences gained from reading tend to change the nature of sociological or cultural groups.

Let's consider first some of the facts of the relationship between reading ability and the nature of the family group in which the child is reared.

There is little doubt but that intelligence is closely related to reading ability. And, as we know, there is a high relationship between the child's intelligence and the social level of his home, as well as between his intelligence and the cultural level of the racial or national sub-group to which he belongs. For example, the average I. Q. for children of professional men is about 116; for children of day-laborers, 92. The average I. Q. of the American Negro has been estimated at 85, the immigrant Mexican about the same, and the American Indian as 75 to 80.

The vocabulary with which the child reads, listens, talks, and even thinks is a product of his association with human groups and institutions. And, although differences in level of vocabulary development are implied when we speak of differences in intelligence, vocabulary has numerous dimensions beyond that of gross number of words for which a meaning is known.

Only infrequently is there a question of do we know a word or not. Ordinarily, the question is how much do we know about a word. What is the nature and breadth of our experiences with it? Take a word such as **skin**, for example. It may be used to discuss the nature of one's race or one's complexion. Or it may mean an animal pelt or merely the process of removing the pelt from the animal. It may mean a dishonest act or the outer layer of nearly any animate or inanimate object. Similarly, a large portion of the words in our vocabulary have many possible meanings and shades of meaning. True, one way that we increase our vocabulary is by adding new words from day to day, but equally or possibly even more important, new meanings for old words are constantly added.

Our experiences constantly add to our vocabulary in another way. A breadth of **feeling** is added to those meanings that we already have for words. Two boys may know equally well that a dog is a four-legged animal, but to one the word calls to mind a friendly puppy while the other thinks of a fierce animal that once attacked him.

We have many examples of the special meaning of words within our own professional field. Although a child might know a meaning for such words as reading, arithmetic, language, teaching, or democracy, most of us have spent hundreds of hours studying and discussing various teaching activities implied by these words.

We have, then, numerous important relationships between our ability to read and our experiences among human groups. General intelligence is very much a product of these experiences. And the breadth of meaning and the feeling that we develop for the words in our vocabulary certainly come from these same experiences with human groups and institutions. Thus both our ability to think with the printed page and the vocabulary tool with which we think are highly related to the sociological forces that we encounter.

Now let us consider how our culturally determined attitudes and beliefs influence the reading process. Certainly our attitudes and beliefs are largely a product of our past experiences with our social groups—our family and friends of our family, our church, our schools, and our communities.

Reading involves thinking and interpretation, and we often accept or reject new ideas and even new information on the basis of our emotionalized attitudes rather than on the basis of logic. When our emotional bias conflicts with our reason, too often reason loses the struggle. As we know, "a man convinced against his will is of the same opinion still." Thus, our attitudes and beliefs govern both what we choose to read and what we gain from reading.

We would be paying inadequate attention to the relationships between the reading process and the forces inherent in our cultural groups if we limited our discussion to how these groups influence the reading process, because what reading does to these groups may be even more important.

Ability to read offers one the opportunity to climb from a group of lower social status to a group of higher social status. And as members of a group generally become able to read, the entire group may advance to higher social levels.

In fact, when a high percentage of the people of a nation become able to read, and when adequate reading material is available to these people, the social composition of the nation tends to change. Such a nation is no longer a collection of heterogeneous groups—it becomes a homogeneous people.

One major point of separation of the American Indian from the general culture of America has been his low educational level. As specific Indian nations have become better educated, they have tended to lose their identity as separate cultural groups and their members have been accepted as full citizens of the general community group.

This is even more noticeable when no racial lines add to the separation. Immigrant groups tend to remain distinct cultures only so long as there are blocks in communication between them and the native group with which they have associated themselves. Reading ability in the new language is one of their first points of entry into full membership in the native group.

We have now considered both the impact of the social group on the reading process of the individual and the impact of ability to read on the nature of the social group itself.

Certainly our need for learning to read has increased rather than diminished as we have moved from the farms to the city and as both our manufacturing and distributing of goods has been taken over by large co-operating groups rather than being done by individual craftsmen and small owner-operated stores.

Where in early colonial days religion furnished the primary motive for reading, modern society presents a variety of demands for reading. Even relatively unskilled workers are required to read directions for doing certain jobs, for meeting union obligations, and filling out tax returns. With the decrease in the length of the working week from sixty or seventy hours to forty hours or less, a workman now has time to read and he may use his reading time either for enjoyment or for preparing himself for a better job.

Actually, there are many possible topics that could have been considered in a paper dealing with the sociology of reading. I have discussed only those that seem to have the most direct bearing on the task of the teacher.

Such questions as the amount and kinds of reading done by persons of different levels of educational attainment or in different portions of our country and the specific purpose for which material is written are legitimate parts of this field of knowledge. The sociologist is concerned also with such problems as the difficulty of various kinds of printed material and the purpose of printed material in the education or propagandization of certain segments of our people.

Does the sociology of reading have implications concerning teaching methods?

For one thing, it is obvious that good reading ability can be developed only from years of effective learning. There is no magic way to a tremendous improvement in reading ability. One surely cannot improve greatly the important determinants of reading ability by learning to make his eyes jump faster. Although they have their place, programs designed for building a high rate of speed actually are concerned with five per cent or less of what we mean by effective reading. The improvement of reading as a thinking process must involve an improvement of the stuff with which thinking is done. Thinking is done with words and their understandings and not with the eyes or ears. It is done with the ideas that are taken to the printed page. Improved ability to read comes from improved background, broadened vocabulary, and an attitude of seeking truth. And improved background, vocabulary, and attitudes come from good teaching and from broad experience in the home, the church, the school, and the community in general.

RECENT RESEARCH IN COLLEGE READING

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The reports of research and other pertinent references reviewed and discussed in this paper are those found reported in the literature during 1955 and those reported in 1954 which were not cited in the review of research presented at the last Southwest Reading Conference (11). The approach used in this report is simular to the summary-review type used in the writer's first two presentations relative to college reading research (9:10), rather than to the more analytical type of treatment attempted last year. The great bulk of references utilized for this report deal with some aspects of college or adult reading. Several reports of studies conducted at the high school level have been included because of their seeming implications for, or pertinence to, the college reading area. Several other studies which do not deal with college reading were also included because of possible pertinent implications. Research and other relevant references will be treated under eight topical headings.

Reading Ability and Academic Success

Results of a number of studies have indicated that reading ability, as determined by tests, plays a significant part in the academic success of college students. Inclusion of reading test scores in combinations of various predictor variables has revealed the prominent predictive value of reading scores for college grades or success (13; 18; 25; 39). Reading test scores have been found to be among the best predictors of grade-point averages in some studies (18; 25; 39), but such scores have not been found to be the best (although still found to be important) in other studies (39).

Munger (40) found no significant relationships between **Nelson-Denny Reading Test** scores and persistence (length of residence in college) of 891 college students who had been graduated in the lower third of their high school classes. Chapman (18) reported better predictive power of variables, including reading test scores, for the higher levels of achievement than for the lower levels. Jackson (25) found combinations of two or more variables yielding no better predictions of college success than did **Michigan State College Reading**

TEST scores alone. He also found that men withdrawing during the first term had lower mean scores on reading tests than did men completing one term; but women withdrawing during the first term and women completing the term had "nearly identical" scores.

Brown (16), in a follow-up study of 290 students who had taken a remedial English course, found that degrees had been received by only 4 of the 67 students who were at or below the second percentile on a reading test. Andrew (3) found entrance test mean scores of 248 non-high-school graduate male students admitted to the University of Utah to be above the average of non groups in all areas, including reading, except English. However, the average mean college achievement of this group was below passing standards.

Somewhat indirect indication of the important part reading ability is considered to play in college or academic success is given by some of the questionnaire data collected by Greene (22). Of the 36 small colleges which reported having freshmen orientation courses, 29 listed "How to Study", 21 listed "Use of Library", and 20 listed "Improvement of reading skills" as areas of instruction.

Reading Habits, Interests, Attitudes, and Needs

Aldrich and Reilly (2) conducted a survey of the magazine reading habits of 847 college freshmen over a three-year period. They found that the magazines read regularly by students were determined largely by availability in the home and had little relationship to age level, vocabulary level, or sex of students. The magazines read regularly varied little for various vocabulary level ranges (Grade 10 to college graduate level), with **Life**, **Reader's Digest**, **Saturday Evening Post**, and **Time** appearing on the list for each of the vocabulary ranges. **Look** appeared on lists through the Grade 12 vocabularly level range, after which it practically disappeared. However, the study yielded strong indications that students were ready to raise levels of magazine reading to levels more nearly commensurate with vocabulary ability, if properly motivated. Abraham (1) referred to a study which also indicated that the most popular magazines among college students were the picture and light fiction and non-fiction types. This study also revealed that little reading outside of that required in courses is done and that very few books are included in the extremely limited outside reading that is done (1:157). Wardeberg's report (56) of a study of newspaper reading habits of high school students may also be of pertinent interest to those concerned with reading habits of college students. She found that good readers (determined with **SRA Reading Record**) both saw and read significantly more articles than did poor readers; but, with one exception, there were no significant differences with respect to the difficulty (as determined with the Dale-Schall formula) of articles read by the two groups. There were significant differences as to the types of articles read, the good readers doing a greater proportion of their reading in the Human Interest, Sports, and Editorial categories and the poor readers doing a greater proportion of their total reading in World News and Comics categories.

Smutz (50) reported that improved reading ability, as a result of a program with industrial employees, resulted in improved attitudes toward on-the-job reading and toward various aspects of job performance.

A preliminary survey of recent Syracuse University reading course students indicated that half were reading at or below Grade 12 norms for the **Iowa Silent Reading Test**, with 40 per cent reading below Grade 12 level (48). Major weaknesses were reported to be low rate, low vocabulary and comprehension skills, flexibility lacks, and lack of confidence in reading ability. Laycock's study of "flexible" and "inflexible" groups of readers who had similar satisfactory mean rates in ordinary reading situations indicated that flexible readers were superior to inflexible readers, in accuracy and speed of fixations, perception of peripheral stimuli, speed of perception, and some aspects of visual discrimination (33). Laycock concluded that habitual motor and perceptual behavior was an important factor in reading flexibility and that students who increased speed easily seemed to have eye-movement and perceptual habits which were of aid to them (33:329). Black (7) presented an 8-item analysis of types of comprehension errors in prose reading made by training college students. Holmes (23), in a report of a rather extensive study of factors underlying major reading disabilities, found and presented the characteristically similar syndromes or deficiencies exhibited by poor readers, both slow and non-powerful.

Evaluations of Effectiveness of Reading Programs

A number of the references utilized for this paper were, in whole or in part, reports of appraisals of results of reading improvement programs. While considerable variations in procedures and practices obtained in various programs, most of the programs reportedly resulted in significant test-determined gains in one or several specific or general reading skills (4; 6; 8; 17; 27; 40; 45; 47; 48; 49; 50; 52; 54; 57). A number resulted in significant increases in reading rate, with negligible, or nonsignificant, increases in reading comprehension (8; 49; 52; 54; 57); but about the same number of programs were reported to have resulted in significant gains in both rate and comprehension (17; 47; 49; 50). Some reports suggested significant gains in both rate and comprehension (42; 44; 45) or comprehension losses accompanying rate gains (37); but data presented were insufficient for determining significance of comprehension gains or losses. Smith and Wood (49) found significant gains in comprehension indicated when **Cooperative Reading Test,** C2, scores were considered; but comprehension increases indicated by **Traxler High School Reading Test,** Part I, scores were negligible and not significant. They also reported changes in vocabulary test scores as being negligible.

While not reporting specific reading improvement programs, several have reported significant results when some aspect of reading improvement was stressed in a course (31; 34; 35; 53). One study of reading growth over a three-semester period revealed that growth achieved by groups who had participated in a reading and study course was about the same as that achieved by matched control groups who had not participated in such a course (41).

Barbe (4) found that, although substantial increases in reading rate on comprehension occurred as a result of a reading program, group intelligence test scores (IQ's) did not improve.

Academic achievement was used as a criterion of effectiveness in a number of studies (8; 16; 26; 41; 44; 47; 49; 53). Improvement in course grades or grade-point averages during and/or subsequent to the period in which reading improvement work was taken was reported by several (41; 44; 47; 49; 53). Studies which have utilized control groups have produced varying results. Some have found groups who have participated in reading improvement programs to be making significantly greater improvement in grades subsequent to reading course participation than non- participating control groups (47; 49); others have found non-participating control groups making equivalent, or greater, improvement than did reading program participants (8; 26; 41). This inconsistency in findings tended to obtain whether control groups were matched or unmatched. Kingston and George's results strongly indicated that the degree of improvement in academic achievement was greatly dependent upon the extent to which the particular curriculum pursued was "linguistic" in nature (26). They found that differences between grade-point averages (for the first two years of college) of reading program participants and non-participants favored, significantly, the non-participant groups of Engineering and Agriculture students; however, differences between participating and non-participating groups of Business Administration students were not significant. Results of several studies employing persistence in, or being graduated from, college as a criterion (rather than grade-point averages directly) have also indicated positive effectiveness of reading improvement programs (8; 16).

When students' evaluations of reading improvement courses or programs have been solicited and analyzed, a majority (usually great) of students has been found to consider such work to have been of some or considerable help to them (8; 31; 34; 44; 47). Very few, if any, students have felt that such work has been of little or no help.

Permanence of Gains

A number of studies relative to permanence of gains has been reported (5; 8; 16; 26; 36; 44; 49; 50). Several investigators retested reading improvement program participants after a period of time had elapsed (36; 49; 50). Mullins (36) reported that a year after completion of a program a group of industrial training employees were still reading at an average rate 257 words per minute faster than the average rate at the beginning of the program; but this was a loss of approximately half the increase that had been effected at the end of the program (rate determined with SRA **Reading Progress Checks**). Smith and Wood (49) and Smutz (50) found that groups retested approximately a year after completion of a program had continued to improve significantly in both rate and comprehension. Smutz (50) found similar results for a six-months' period. Reading achievement was measured with the **Cooperative Reading Test**, (2), and the **Traxler High School Reading Test**, Part I, by Smith and Wood and with

the Diagnostic Reading Tests by Smutz. Comprehension gains indicated by the Traxler test in Smith and Wood's study were positive but not significant (49).

Permanence in terms of continued improvement in academic achievement was also studied by several. Ransom (44) found that a clinic group of 75 had made significantly more improvement in grade-point average at the close of the semester in which group members had been enrolled in a reading improvement course than had a matched control group, and the clinic group continued to show improvement during subsequent semesters. Smith and Wood (49) found an experimental group making a significantly greater increase in grade-point average at the end of the semester during which reading training was received than did a control group which had not received training. By the end of the next semester differences had increased. The grade-point average of the experimental group did not differ significantly from that of a representative group of freshmen at the end of the first semester; but at the end of the second semester the former had achieved a significantly greater grade-point average than that of the representative group.

Blake (8), in a follow-up study over a period of four and one-half years, found that success in terms of being graduated from college was as great for a group of 122 probationary students who had been enrolled in a study and reading skills course as it was for a control group. He found similar results in another follow-up study of 100 probationary students over a five-year period (8). Brown (16) also found that an appreciable number of students who had taken remedial English eventually received degrees. Kingston and George regarded the findings in their study as "indirect evidence" of the "permanence of reading training" (26:471).

Methods and Materials

There still is somewhat of a paucity of research involving critical analyses of relative effectiveness of various methods or procedures used in reading programs. However, a few studies relative to this have been reported. In an experiment conducted at the Air Command and Staff School (54), one experimental group participated in a book-centered course which was devoted entirely to reading and working exercises in Norman Lewis' **How to Read Better and Faster**; a second experimental group participated in a machine-oriented course which was oriented around the reading rate controller (Three

Dimension Company). Both courses lasted seven weeks, for a total of twenty-one fifty-minute periods. Both experimental groups improved significantly over a control group in speed (**Harvard University Reading Course Test**); but the speed of the book-centered group was significantly higher than that of the machine-centered group. There were no significant comprehension differences between either experimental group and the control group; however, there was no significant loss in comprehension for any group.

In a study reported by Wooster (57), the control group of students in a study course made greater rate gains than did two experimental groups who had received supplementary training on a rate controller in addition to the regular book-centered work of the study course; but rate gains of all groups were significant. There were no significant differences in comprehension scores. Cardwell (17) reported significant gains in both rate and comprehension in a program in which no machines were used.

Bennett (6) reported an experiment in reading with several classes of freshman English. One group, the "free" group, read more books than regularly required, but there were few "pop" or written quizzes and students were relatively free in their reading, i.e., they were to depend upon "intellectual curiosity, spontaneity, and delight," and little outlining and analysis was required. A "regular" group followed the regular syllabus, which prescribed the books to be read and involved analyzing, interpreting, and organizing activities, frequent quizzes, assigned essays, and vocabulary tests. A third group was "kept busy and alert" with emphases on curiosity about words, reading speed and comprehension exercises, and outlining and summarizing activities.

Techniques and skills were emphasized more than content with this group. The **Diagnostic Reading Tests** were used to evaluate results. The "free" group made the poorest showing in everything except speed. The regular group made the best showing in vocabulary, but only slightly better than the "free" group. The third group, with which techniques and skills were stressed, made the best showing in everything except vocabulary. Statistical tests relative to differences in results for various groups were, however, apparently not applied. In an experiment in which experimental groups in a social science course were taught with directed study of vocabulary, Komisar (31) found experimental groups making consistently greater gains than did control groups on vocabulary studied, general vocabulary, reading comprehension, and the final course examination. While none of the mean differences were significant, it was felt that the groups had profited from the vocabulary study and the technique was reportedly regarded favorably by both instructors and students. Maize (35) studied a group of 75 students who had low English entrance test scores and poor composition ability and with whom a student-centered approach, in which mechanics were subordinated to the main task of communication, was used in an English course. When compared with a control group with which the sanctioned, or regular, method of instruction was used, the former (or experimental) group was found to be significantly superior on all aspects tested except vocabulary. Both groups made significant gains in vocabulary, but differences in gains were not significant.

Although conducted at the high school level, an experiment reported by Barry and Smith (5) might suggest possibilities for college reading groups. The experiment involved eight different groups of ninth-grade students, with a different method being used with each group. All methods resulted in raising reading levels "beyond expectation," and "no appreciable difference" in median net gains was found for the various methods. Gains similar to those obtained the previous year with Iowa reading films were obtained the second year without films. Even pre- and post-testing alone appeared to effect reading gains "beyond expectation." The report of this study did not indicate that statistical tests had been applied.

No two of the programs referred to previously, when evaluation of programs was treated, involved the same methods, procedures, materials, and the like; however, all resulted in gains of one type or another; and most involved several varied techniques. The apparent inadequacy or insufficiency of a single technique when used alone has been noted by Sheldon (48:228). Holmes' extensive analysis of factors underlying reading disabilities (23) indicated that reading speed and power are supported by a number of similar, or the same, elements and that reading improvement might, therefore, be effected through various approaches. He concluded that this explained the success of different emphases and methods (23:82).

The effect of various types of presented material upon retention and comprehension has been studied by several investigators. Christensen and Stordahl (19) presented 36 different experimental versions of each of two passages, using combinations of none to four organizational aids (outline at beginning, summary at beginning or end, underlining of main points, headings in statement or question form), to groups of Air Force trainees. They found no significant differences between organizational aids for either immediate or delayed retention or between times devoted to studying different versions.

In a series of studies reported by Klare, Mabry, and Gustafson (28; 29; 30), various adaptions of the same two technical selections were used to study the effect of these adaptions upon immediate recall, reading time, and acceptability of material. Neither content nor technical words were changed in the adaptations. When compared with the low level of human interest ("impersonal") treatment (the original version), they found that the high level of human interest ("personal") version produced no significant difference in immediate retention score, was consistently judged less acceptable, and tended to produce a greater amount read in a given time (29). Patterning (underlining of selected words) brought about somewhat greater immediate retention than did ordinary material for able subjects; but less able subjects tended to be hindered by such treatment when they were not given its rationale (28). Patterning appeared to have little effect on either speed with which material was read or its acceptability. Materials written in easier style (Flesch and Dale-Schal readability formulas) tended to result in greater retention, amount read in a given time, and acceptability of material (30). Acceptability of material was consistently judged on the basis of content rather than on the basis of other factors.

Factors in Reading Improvement

While none of the studies reviewed in this paper were concerned solely or chiefly with factors influencing improvement in reading skill, several studies yielded indications somewhat pertinent to this point. Kinne (27) analyzed gains made in a reading program in terms of age groups, but his results were somewhat inconclusive. With one group of executives, the younger group (ages 23-28) had a decided advantage over the older group (age 32-48). However, adults compared very favorably with younger students in other comparisons of various groups. There was some tendency for better response to speed by younger groups, to comprehension by older groups. However, practically all gains made by groups at various times and by various age groups were significant. Cardwell (17) found no particular relationship between age and gains in rate, but there were indications of some relationship between age and comprehension gains.

Ranson (44) found no significant differences between rate gains (**Diagnostic Reading Tests**) of students scoring high on rate initially and students scoring low initially. She did find a significant negative relationship between initial rate scores and comprehension gains, students with initially low comprehension scores making the greatest gains in comprehension. Students in the lowest quartile of the experimental groups in Komisar's study (31) made significantly greater gains than did students in the lowest quartile of control groups in social science vocabulary studied, in general vocabulary, and in reading comprehension.

The influence of personality factors has been posited frequently, but indications yielded by studies included in this paper were rather meager. Though personality factors (as determined by the **Sheer Self-Concept Test**) in Chapman's study (18) failed to show consistently significant relationships with college success, he considered the trends sufficient to merit further research. O'Bear (41) found remedial reading students to be about equal to matched non-remedial students (who achieved better in nearly all areas) in attitude toward personal adjustment. The superiority of a control group over a group of representative freshmen, while not significant, suggested to Smith (49:156) differences in motivation between those applying and those not applying for reading program services. Holmes (23) found no evidence of relationship between disabilities in either power or speed of reading and any particular syndrome of personality traits.

Reading Tests

While reading tests continue to play an increasingly important part in college reading programs, there were found only a few reports pertinent to analyses or construction of reading tests or test techniques. Laycock's report (33) suggested a technique for selecting "flexible" and "inflexible" readers. Black (7) discussed the construction of tests used for measuring various comprehension skills. Hurlburt (24), in a comparison of active (or writing and speaking, vocabulary with latent (or reading) vocabulary, constructed a recall-completion test for measuring active and a recognition-multiple choice test for measuring latent vocabularies. Vocabulary scores obtained varied according to the test form and other factors and the two techniques appeared to have only a limited number of factors in common. He concluded that both forms or techniques were necessary for obtaining adequate evaluations of vocabulary ability.

Correlation ratios obtained between **Cooperative Reading Test** rate scores and each of sets of cooperative **Mechanics of Expression** scores and **ACE "Q"** scores by Mullins (38) indicated rather high relationships between the reading speed scores and quantitative scholastic aptitude and mechanics of expression measures and suggested considerable influence of reading ability upon performance on the two frequently used classification tests. Some of the findings in a study reported by Munro (39) suggested similar indications with respect to **ACE "Q"** scores.

Ward (55) questioned the **Diagnostic Reading Tests** with respect to validity of indicated comprehension gains, interpretation of vocabulary scores, and the inadequate challenge provided for mature readers. In a study of various forms of the **Diagnostic Reading Tests** (Survey Section), Bliesmer and Dotson (12) found neither Forms A and C nor Forms B and C comparable when the tests were considered in entirety. (Preliminary results of a study currently underway (21) have yielded similar indications with respect to Forms A and G and Forms G and H.) The rate, rate selection comprehension, paragraph comprehension, and total comprehension subtests of Forms A and C were found to be fairly comparable; the vocabulary subtests were not comparable (12). Neither the total tests nor any of the subtests of Forms A and B were found to be comparable.

Reading and Listening and Spelling

Brown (15) called attention to studies which showed listening ability to be about as closely related to grades achieved as is reading ability, and he pointed out the need for evaluating listening as well as reading performance. Brown also reported results of a study (14) in which students in a listening class made significantly greater gains on listening scores than did a matched control group of students enrolled in other communication classes, these results indicating that listening skills can be taught.

Laycock (32) found no relationship between spelling ability of college freshmen and level of vocabulary used in writing 500-word essays. Low spelling ability did not noticeably hamper choices of vocabulary when students were under pressure [illegible]rite as well as possible. These findings indicated that spel[illegible] improvement by itself should not be expected to result in freer or better written vocabulary. An analysis of over 31,000 misspellings found in compositions of college students indicated that a relatively small number of words present a considerable portion of the difficulty students have with spelling (43). Of the 4,482 different words or "word-groups" found misspelled, 90 of these accounted for 30 per cent of the misspellings. A study carried out among high school and college English teachers by Swain (51) indicated the need for considerably more agreement with regard to what constitutes a misspelling. Several writers have reported procedures used to help students improve in spelling (20; 46). Effectiveness of techniques used was claimed, but evidence of transfer value to more functional and realistic situations was somewhat indefinite. The spelling studies just cited were not concerned with relationships with reading ability. Research concerning relationships between reading and/or spelling and writing ability has been conducted predominantly at the elementary and secondary school level. The above studies were discussed briefly because of possible suggestions for future research, at the college level, in the area of functional relationships among the various modes of communication. It seems to the writer that such research is necessary and should be forthcoming.

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RESEARCH TRENDS IN THE PSYCHOLOGY OF READING

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I. WHY STUDY TRENDS

Prediction of human behavior is one of the functions of a psychologist. Research is a human behavior (although our subjects sometimes charge us with being inhuman). Thus it is proper that we attempt to predict research behavior. One method is that of determining research trends, if any such trends exist.

One of the values accruing from research on research is the historical perspective we achieve. We can view research efforts as the experimenter views a running maze; we can see the apparent culs de sac, the dead-end streets which contain no rewards for the researcher. For instance, it was once thought that the training of eye-movements might result in the solution of certain reading difficulties. After scores of studies, we now know a great deal more about eye-movements and very little more about reading improvement. Here is one cul de sac we can avoid.

A second value of studying research is the opportunity afforded to see, at a group level, developmental process ordinarily studied only in individuals. For example, there has been a differentiation of research on the senses: some years ago, visual and hearing defects were objects for study; now, perceptual discrimination and visual-auditory-motor integration are objects for study. We are probing more deeply. Researchers as a group are differentiating gross behaviors just as the normally developing child differentiates finer skills out of gross activity.

A final value of observing research trends is the opportunity for discovering information by means of which we may predict the future, make conceptual leaps and, by so doing, inaugurate research perhaps ten years before it would normally occur.

But here a note of caution: this whole study is risky: we might be completely wrong. Therefore the results should be accepted with reservations.

The following report consists of four sections: description of procedures; data analysis; results, that is, the report of trends; and, finally, predection of future research.

II. PROCEDURE

Sampling. An arbitrarily determined sampling procedure was adopted. The years 1945, 1950 and 1955 were selected. Three journals were culled for items whose primary focus was some aspect of the reading process. During each of the three years, all issues of the following journals were inspected: the **Journal of Educational Psychology**, the **Journal of Educational Research**, and the **Journal of Experimental Education (1)**. In addition, the "Educational Psychology" section of **Psychological Abstracts** was inspected for relevant items.

Since publication lag runs up to eighteen months in the first three journals and, perhaps, six months more elapse before the articles are abstracted, the true sampling covers about a two year period prior to the years cited. Add to this time a year or more for data collecting and the write-up of results before articles are published and we have a sampling of research for the years 1942, 1948 and 1952.

A final sample was secured from a mail survey of 53 reading centers most of which have shown research agitation. Twenty-five, or 47.2% replied, of which four reported no current research activity.

Tabulation. Articles were tabulated in a number of ways: distribution by year, by journal of origin, and by educational level of subjects; the total number as a proportion of all studies on educational psychology per year (abstracts only); proportion of research items as contrasted with discursive or "opinion" items; distribution by apparent subject (gifted, program evaluation, etc.) and by a molar, intuitively derived set of categories.

During the three year period, 165 articles appeared in the journals sampled. Forty-seven journals included one or more articles on reading, as determined solely by their appearance in **Psychological Abstracts**. Thirty of the 47 each accounted for one article; seven journals contributed two apiece; five journals accounted for six or more articles. Of those five, two are published as special reading numbers.

Education and **Childhood Education**, and include primarily discursive type items. The three organs which publish reading research consistently are the **J. Educ. Psychol., J. Educ. Res.** and **Elem. Sch. J.**

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(1) The **Elementary School Journal** might well have replaced the third journal.

The total and proportion of educational psychology items by year appear in TABLE I.

TABLE I

INCIDENCE OF READING RESEARCH ARTICLES DURING SPECIFIED YEARS AND PROPORTION OF TOTAL ARTICLES ON EDUCATIONAL PSYCHOLOGY*

Articles	Year		
	1945	1950	1955
Incidence	39	46	78**
Reading/other research	11.5%	8.4%	8.8%

*As determined by sampling procedure (see text).

**Estimated. The The latest two of six numbers of Psychological Abstracts were unavailable. Total was determined by extra polution on the basis of proportion of items appearing in latest two in preceding years.

Despite a sizeable increase in publications from 1950 to 1955, reading items expressed as a proportion of total research on Educational Psychology, remain constant.

Destribution of articles by educational level indicates a dearth of research on reading in high schools. Including all articles sampled (N = 230), 61% concerned elementary school children, 13%, high school pupils, and 26%, college students.

Discursive type articles accounted for 10% of the 1945 sampling, 28% of the 1950, and 29% of the 1955 sampling. The remainder of the tabulation does not include such articles.

The 21 reading centers reporting current research activity together with the writer's installation account for 71 studies with a range of 17 and a median of 2 studies per respondent.

Distribution of articles by arbitrarily derived categories appears in TABLE II. (2)

III RESULTS

Consideration of TABLE II must be preceded by a note of caution. First, statistical tests of significance are not appropriate. The inductive process leading to the selection of categories capitalizes upon what may be sampling error. The problem is something like that plaguing our graduate students: they gather data, examine it for relationships, then state their hypotheses. Tests of significance, in this case, are not appropriate. For example, selection of "emotional correlates" as a category results from a bias which might have resulted from the present survey. It is conceivable that a survey of 1954 studies would uncover no studies of emotional correlates with the result that emotion might not be chosen as a category. (3) Second, some of the entries are based upon small Ns. Entries range from 2 to 28 articles with a median of 6. They are presented as percentages.

Seven of the 12 categories appear to show trends. Of the 7, 2 trends are quantitative, 4 are qualitative, and 1 is both quantitative and qualitative.

Components: Improved techniques for determining the part processes of the reading act are now being used. Survey of "expert" opinion is giving way to factor analysis.

Measurement: This seems to be undergoing a resurgence, due, perhaps, to new developments in other areas, particularly "Components," "Perceptual" and "Emotional" correlates. Advances in theory and measurement go hand in hand.

Correlates: While the proportion of research activity spent on correlates remains relatively constant, the kinds of correlates appear to be changing. The most impressive change is in the emotional area. More studies are being made; studies of reading interests are giving way to those of personality structure and dynamics. Perceptual correlates now include primarily reports of aural and visual discrimination, their development and training, rather than of visual defects. Intellectual correlates are differentiating in terms of the factors of intelligence and sub-groups, the gifted and dull children.

Procedures: Diagnosis is receiving little attention, perhaps waiting until progress is made in measurement. Comparing methods of teaching has been a dead end street. However, attempts to tie methods to special groups, the gifted and the slow, and to personality, the loose and the rigid,

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(2) "Intellectual": achievement, gifted, dull, intelligence, readiness.
"Perceptual": vision, discrimination, dominance, eye movements.
"Emotional": interests (preferences), anxiety, rigidity, etc.
"Comparison of methods": treatment methods, television.
"Materials": readibility, etc.

(3) The next surveyor, if he adopts the categorization procedure, might appropriately use tests of significance.

TABLE II
DISTRIBUTION (%) OF RESEARCH IN READING DURING SPECIFIED YEARS WITH INFERRED TRENDS

Subject	Year				
	N — 42 1945	1950 N — 50	1955 N — 44*	Current N — 71	
Process:	67	50	64	58	
Components	(14)	(8)	(11)	(7)	From surveys of opinion toward factor analysis
Measurement	(32)	(20)	(11)	(25)	Resurgence: esp. personality measures
Correlates:	(54)	(72)	(78)	(68)	
	(100)	(100)	(100)	(100)	
Intellectual	40	50	50	36	From intelligence (general) to sub-skills and sub-groups
Perceptual	40	39	41	36	From vision and hearing to discrimination and integration
Emotional	20	11	9	28	Resurgence: from interests to personality structures
	100	100	100	100	
Procedures:	26	42	23	31	
Diagnosis	(28)	(10)	(20)	(18)	
Comp. Methods	(36)	(57)	(40)	(41)	From methods generally applied to methods devised to fit specific personalities and problems
Material	(36)	(33)	(40)	(41)	
	(100)	(100)	(100)	(100)	
Evaluation:	7	8	13	11	Slight increase
	100	100	100	100	

are beginning to yield results. (A possible trend not included in TABLE II is a change in readability studies from word and sentence difficulty to analyses of reading aids such as charts, pictures, etc.).

Evaluation: This category might well have been included with procedures. It has been awarded a special place because of its importance. The proportion of research time spent on evaluating instruction is apparently small. Some of the reasons are known. For instance, securing adequate control groups is difficult for the tender-hearted clinician: he cannot, in good conscience, refuse help to those who ask for it. Let us hope that the slight increase reflected in TABLE II indicates a trend.

In general, TABLE II reflects satisfying progress. The past decade seems to have witnessed rapid gains in a number of areas. It is probably significant that advances have occurred in some areas as a result of the differentiation of gross variables into their components.

IV. PROGNOSIS

We are now in a position to make some conceptual leaps, to predict the future direction of research through informed guesswork. Three directions seem both clear and near:

1. Secondary schools will become the next important laboratory for research in reading.
2. Treatment will be differentiated in terms of specific learning patterns required by children of differing personality structure.
3. Improved measures of perceptual discrimination and of personality will be developed, thus leading to improved diagnosis.

Now let's crawl further out on the prognostic limb. Two highly important areas of investigation may be broached within the next decade. First, there will be attempts to determine the physiological bases of reading. Theory and measures are already available to some extent. Donald Hebb's (1949) theoretical framework of cerebral mechanisms is confirmed in some respects by recent factor analytic studies of reading components. We are, in effect, dealing with two variables, **words** and **words together,** concepts and series of concepts leading to higher order ideas. Measures of neurological functioning are described in the literature on **satiation.** Relationships among satiation, perception, thinking and personality have already been shown (Smith and Raygor, 1955;

Eysenck, 1955).

The second area is that of prognosis of success in beginning reading. It seems to me that we are approaching the place wherein a formula can be devised by means of which we can predict which children are likely to fail when taught by present methods, thus allowing special instruction for those few. The independent variables in such a formula, I suggest cautiously, will be measures of energy. The formula should include, on the one hand, energy available and willingness to expend energy (motivation), and, on the other, variables requiring the expenditure of energy: low intelligence, inadequate perceptual discrimination, inadequate perceptual-motor integration, anxiety (uncontrolled energy), sensory defects, and classroom atmosphere (anxiety-arousing). Measures must be developed for some of the variables and quantities must be determined empirically, certainly not an insurmountable task.

I would like to point out, parenthetically, that much research evidence now available is not being used. For example, many children are referred to us, children who have had fruitless years of remedial reading instruction. Grace Fernald's technique (1943) which my staff uses, makes it possible for these children to succeed. But the technique is not widely used despite overwhelming evidence in its favor presented by Fernald and others.

V. SUMMARY

In order to determine research trends in the psychology of reading, some 207 research articles and studies in progress were drawn from journals appearing in selected years and from a mail survey of reading centers. Another 27 articles, primarily discursive, were not included in the analysis.

Apparent trends of the following kind were noted:

Reading Process—

1. Attempts to determine components by factor analysis rather than by opinion surveys are becoming more in evidence.
2. A resurgence in the development of measurements seems to be occurring after decreased activity in the past few years.
3. Studies of personality and perceptual correlates appear to be replacing those of interest and vision.

Procedures—

1. Comparative methods studies seem to be tending

toward the inclusion of personality controls.

2. Readability studies are focusing upon analysis of reading aids (i.e., pictures, charts) and of the benefits of rewriting rather than upon concepts and grammatical construction.

Evaluation—

There is some slight evidence of increased evaluation activity.

Prediction of future trends include the determination of physiological bases of reading and derivation of a general formula, based upon measures of energy expenditure, for prediction of success in beginning reading.

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READING AND SEMANITCS

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I. General Need for Semantic Understanding in Reading Comprehension

The objectives of the long-range reading program in grades one to sixteen can be rather crudely summarized into the following three goals:

1. The teaching of the mechanics of reading—word recognition, word attack, study skills, efficient eye-movements, etc.
2. The development of maximum comprehension in terms of each student's ability and experience, and including critical analysis of reading matter.
3. The development of genuine interest in reading for a variety of purposes.

During the year 1955, most of the words written and spoken on the general subject of reading instruction were concerned with the first of these three goals. Consideration of the mechanics of reading probably dominate the literature even in a normal year, but in 1955, Rudolph Flesch's book, **Why Johnny Can't Read (1)** resulted in unusual emphasis on mechanics and corresponding neglect of the aspects of comprehension and interest. In spite of this emphasis in the popular and professional literature, reading teachers know that developing comprehension is at least as important as teaching mechanics, and anyone who has given even cursory attention to the nature of the reading process realizes that without "comprehension"—however it may be difined—no reading has really occurred.

Since reading comprehension is not an all-or-none proposition, the educational system must strive to develop comprehension to the highest possible degree for each student. The development of the finer components of reading comprehension very definitely requires a command of the fundamentals of semantics, although the word "semantics" may not be used by either the teacher or the students.

Because semanticists have applied their art and/or science to a great variety of subjects, it may be desirable to establish a definition of semantics before further consideration of the relationship with reading. S. I. Hayakawa is one of the pioneer semanticists in the United States, so one of his definitions should be useful.

In **Etc.: A Review of General Semantics** he has stated: (2) "By semantics, we mean the interpretive habits that people have within them by means of which they apprehend and react to the signs and symbols of the world around them." Over-simplifying slightly, we might say that semantics is the study of the interactions between language and personality. To the teacher of reading comprehension, semantics seems to be some mixture of communications and the psychology of adjustment.

The previously mentioned book, **Why Johnny Can't Read**, illustrates, in both specific and general ways, the importance of semantic skill to reading comprehension. Specifically, when Dr. Flesch refers to "phonics" in primary reading instruction, he intends a very limited, archaic concept of phonics; furthermore, only those methodologists who employ out-of-date phonics systems similar to his own are really teaching phonics, according to Flesch. Thus, elementary teachers who perceive the twentieth-century meaning of the word "phonics" are bitterly resentful of Flesch's assertion that today's schools are not teaching any phonics. A semantic impasse has resulted from the author's use of a nineteenth-century meaning for a word to which the readers apply a modern interpretation.

Flesch's recent book also requires a **general** awareness of the fundamentals of semantics if it is to be read intelligently, because the author writes in a very unssientific style and uses a number of the techniques of propaganda. Some of these propaganda tools which would be detected by the student of semantics are: (1) misrepresentation of sources by quotation out of context, (2) implication that the author is the only one whose judgement can be trusted, (3) implication that those who are in opposition have dishonorable motives, (4) use of the "straw man" technique assumptions which are not true, followed by the proposed remedies for these erroneous assumptions, (5) deduction which is not supported by the premises, (6) misinterpretation of research, and (7) insinuation.

The writings and speeches of Senator McCarthy provide similar illustrations of the need for semantic sophistication in reading comprehension, and they have reached a much larger audience. The specific semantic problem is illustrated in McCarthy's case by his distorted use of the term "Communist sympathizer" to include nearly all persons who oppose him for any reason. In a more general sense, his book, **McCarthyism, the Fight for America,** (5) could almost serve as textual material in the teaching of critical reading, since it includes samples of all the propaganda techniques mentioned in the preceding paragraph about Dr. Flesch.

Perhaps the most obvious and frequent need for a semantic awareness on the part of the reader is associated with the reading of advertising, especially now that we are living in what has been called the "Era of Public Relations." Professor H. R. Huse of the University of North Carolina has started this sort of "left-handedly" in an early issue of **Etc.**: (4) "No literature is tested as rigorously as advertising. To be successful, advertising copy must reflect accurately the critical sense or gullibility of those to whom it is addressed. To say that these advertisements display hypocrisy, lying, insincerity, and stupidity is to say only what every one with critical sense or a faint notion of honesty and candor already knows. After a look at the ads in some of the popular women's magazines, one can question seriously whether it is worth while to teach women how to read. The same can be said of some magazines for men. Our schools turn out their products equipped with a deceptive literacy like lambs ready for the slaughter."

Advertising copy-writers are not the only propagandists who are sensitive to the public's general lack of semantic judgement. Consider the following paragraphs by one of this century's masters of persuasion:

"One can divide the readers as a whole into three groups: First, those who believe everything they read; secondly, those who no longer believe anything; thirdly, those who critically examine what they have read and judge accordingly.

"The first group is numerically by far the greatest. It consists of the great masses of the people and therefore represents the mentally simple part of the nation . . . To it belong all those to whom independent thinking is neither inborn nor instilled by education, and who, partly through inability and partly through incompetence, believe everything that is put before them printed in black on white . . ."

"The second group is much smaller even in number. It is composed of the greater part of the elements which first belonged to the first group, and who after long and bitter disappointments changed over to the contrary and believe no longer in anything at all that comes in the form of print before their eyes . . ."

"The third group finally is by far the smallest; it consists of the mentally truly fine heads whom natural gifts and educatio have taught to think independently, who try to form a judgement of their own about everything, and who submit most thoroughly everything they have read to an examination and further development of their own . . ."

No one doubts that the writer of these lines knew the art of propaganda; they are taken from Adolf Hitler's **Mein Kampf. (3)**

II. Two major types of semantic problems in reading comprehension

Type A. The reader fails to get the author's meaning adequately, even though he glides over the words and may be convinced that he has understood what he has read. This sort of comprehension failure often results from erroneous interpretation of words and phrases. Professors Ernest Horn and Paul W. McKee have investigated this problem quite extensively among elementary school children, and McKee's reading methodology text contains several specific illustrations of pupil falure to accurately understand such phrases as "our great Northwest." For some reason, no one has investigated corresponding meaning difficulties at the college level, so much more study of the problem is needed at the higher educational levels.

Figurative language provides another major source of semantic difficulty in reading comprehension and seems to affect readers of all ages. By the time our students reach college, they should be so familiar with the language that they are no longer confused by similes, although college teachers report that they have some difficulties with metaphors. It would seem as though hyperbole should not mislead adolescents, considering their own liberal use of exaggeration; but euphemisms, or the substitution of inoffensive words for potentially annoying ones, can be deceptive to almost all readers at all levels of intellectual sophistication.

Type B. The reader interprets the context in the manner desired by the author, and thus the reader is deluded to some degree. As indicated in the quotation from Professor Huse, if the reader is equipped with an unguarded literacy, he can misinform himself, and might be better off if he couldn't read at all. In fairness to some authors, it is necessary to acknowledge that they have not deliberately sought to over-sell their readers, but have been carried away by their own sincere enthusiasm for the views being delineated; such writers are nonetheless biasing their readers, even though their motives are in contrast with those of the advertising copywriter, who has no genuine interest in the product described. Of course, some propaganda serves useful purposes, as for example, the advertisements for UNESCO and UNICEF, but the reader should know that he is being propagandized, even when the cause is worthy.

Some of the more common propaganda techniques to which the semantically oriented reader would be alert are:

1. Use of emotive language to excess
2. Artificial dichotomization of an issue that has more than two sides (as in "those who are not with us are against us").
3. Conclusions drawn from false assumptions—the "straw man" technique
4. False or indefensible conclusions drawn from acceptable premises
5. Misinterpretation (deliberate or ignorant) of experimental data
6. Ridicule of the opposition
7. Exaggeration
8. Distortion by quotation out of context
9. Innuendo
10. Use of "loaded" words and phrases — rebels, scabs, Mother, etc.

III. Semantic equipment needed for maximum comprehension in reading

A. An awareness that a given set of words or phrases does not have a single, rigid meaning, but that it means different things to different people. The college student has probably been taught that reading is "getting meaning from the printed page." If he believes that teaching, he is satisfied that a printed phrase has a very exact, inflexible meaning, and that all people who really understand it will get exactly the same meaning from it. It is necessary to replace this notion with the realization that in the reading act, most of the meaning is within the reader and that without his experience background, the printed phrase would have no meaning, even if he could somehow pronounce the words. The point can be made rather obvious to a group of students if they are asked to describe the mental pictures provoked by a phrase such as "a hard-fought ball game." As one student after another tells of his imagery, the class will be amused to find that different "readers" visualized different kinds of ball games. Training along this line makes the student realize further that there is less than perfect communication between the author and the reader; thus the importance of semantic alertness is emphasized.

B. An awareness that authors write for a variety of purposes. Some students have simply never bothered to ask themselves — or anyone else — why a book or an article was written. This lack of intellectual suspicion probably stems from the unquestioning respect accorded to books during grades one to twelve. Whatever the source, the student who becomes a discerning reader is going to learn to ask whether the author wrote for pleasure, for the money, to propagandise or for a combination of reasons. The instruction can take the direction of some of the exercises in the Stroud-Ammons-Bamman reading manual, (7) exercises which ask "Who Would Have You Believe This?", "To Which of Your Needs is This Appeal Made?", and "What is the Author's Purpose?"

C. Knowledge of the propaganda techniques (partially listed in IIB); also understanding of some of the antidotes for biased writing. Instruction in the rudiments of logic will help students crack the spell of propaganda, as will almost any approach to the scientific method. They should also become sensitive to the uses of emotive and informative language and particularly to the abuses of the former. College students should realize that human opinions on most subjects do not fall into two distinct categories but into continua, ranging from progressive to reactionary or from liberal to conservative. It is, of course, necessary to provide exercises which require the students to detect faulty logic, emotive language and artificial dichotomization.

D. Understanding of the characteristics of the reader himself which make him a victim of his own prejudicial experience. This fourth essential is the least likely to be adequately developed, partly because the great majority of reading teachers at all levels do not appreciate its importance, and because it would take a considerable amount of training and guidance before the average college student could understand, to a useful degree, the nature and sources of his own interpretative biases. This undersanding requires a lot more knowledge of the dynamics of personality than most people ever possess. However, Ojemann's (6) experiments in teaching personality adjustment to students in the seventh and twelfth grades suggest—but do not prove—that a few hours of instruction would enable the typical college student to detect and understand some of his biases, and to read with less prejudice in the future.

It would obviously take a generous allowance of instructional time to equip students with this semantic machinery, even if steps A through D were developed rather sketchily, and some reading instructors might insist that the program outlined is too ambitious to be feasible. Nevertheless, any reader who does not have this semanic sophistication can be deceived by a moderately skillful writer. Such a reader is just as well prepared to be deluded as he is to be enlightened.

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WHAT ARE THE READING NEEDS OF COLLEGE STUDENTS?

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College professors like other adults through out the country are bewildered by the lack of reading ability of the college student. Each professor has reasons as to why this inadequacy exists. As usual the blame is placed on the lower eschelons and progressive or modern education.

The college student, the object of the furor, doesn't seem as confused as the instructor. Often he thinks it would be advantageous if he could read better but other than a verbalization to that effect most college students do little or nothing.

What are the reading needs of the college student? These needs will be considered both from the teacher's point of view and from the point of view of the college student.

How are these needs determined? By tests? By teacher's observations? By students' statements?

From the students standpoint what are the needs? One need expressed very often is the need for speed in reading. Students seem to believe that this factor is the cause for being unable to read all the material they are supposed to read. A promise to increase their speed of reading stimulates attendance at volunteer reading sessions.

Vocabulary deficiency is another need recognized by students. Many attempt to build their vocabulary by keeping a dictionary near and looking up unfamilar words. Others say they try to get the meaning of unfamiliar words from the context and if the meaning is not clear they just let it go.

Comprehension is recognized as a need by many students but this need is sometimes dismissed on the grounds of "I never could ioncentrate," or "the teacher should explain it." The students recognize the need to understand what has been read but many seem to be at a loss to know that anything can be done about it. One teacher of a reading improvement group said, "I think that in many of the cases of those who report to our reading sections lack of reading proficiency is only a symptom which is undergirded by a generalized disinterest in 'things' which are academic."

Other students recognize they need to read for detail but the statement of this need is usually followed by some statement to the effect that often teachers ask questions on examinations that call for minute information.

In spite of these stated needs it is the consensus of many students that while it would be desirable to improve their reading ability that they are doing satisfactory work in class and on tests and therefore there is no urgent need to improve their reading ability.

Students are quick to point out that in some classes it is necessary to read but that these classes are in the minority. They point out that by spacing those courses requiring reading throughout their course of study they can handle them adequately without improvement of their reading ability.

Also the students are quick to point out the fact that unless a person is striving for a grade of A or B, that by listening in class, by taking good notes, and by having other students with whom to discuss possible test questions, a student can pass most courses requiring extensive reading (alleged extensive reading).

As one girl put it, "I'm getting by very well now, so why should I try to improve my reading."

A word might be said about the needs of those students who reach college but who through examination of reading tests reveal can read only at the Junior High School level. Their needs include speed, comprehension, ability to read for detail, vocabulary, but also a thorough grounding in the fundamentals of reading, word-attack, phonics, etc.

Many students have mentioned that merely learning the different ways to approach different types of reading material has brought about an improvement in their reading. (Phrase reading, word-attack in context, and varying rate for different materials are best accepted for having remedial value).

Above all else a change in the attitude of the students toward the printed page must be effected. One teacher of a remedial reading group said, "For some it seems that in the past there has been little stimulation for reading; just the opportunity for self-chosen reading materials to be utilized during reading improvement sessions seem to elicit more positive attitudes. For those who come to our meetings awhile and then refrain from returning I think there is a feeling of 'Why get involved with extra-duty; I have succeeded in the past without reading any better."

Let us turn for a moment to the examination of the reading needs of college students as expressed by the students themselves to the reading needs of college students as expressed by the college faculty. Those faculty members who teach courses requiring extensive reading of the texts, extensive use of books and magazines in the library believe that maximum reading ability is absolutely necessary. "How else can a student learn of vast amount of knowledge that has been accumulated concerning the human race, the philosophies that have influenced thinking, the religions and their influence upon man, etc.?" "How can a student be educated in the true meaning of the word unless he can read?" are some of the questions coming out in the coffee time conversations of college teachers faced with the disappointment of the college non-achiever at the college level.

In the face of lack of reading ability on the part of his students, the faculty member proceeds to do the reading of the material he assigns, makes copious notes, organizes these notes, presents this information to the classes and tests over his lectures, which, all too often are the synthesis of textbook material and outside reading assignments. In his attempt to solve the problem of the failure of his teaching to "take," has the instructor created a need for excellent or even moderate reading ability? I do not think so, for the student who is satisfied with average grades, or even for the one who is adept at the skill of notetaking and memorization and feedback on tests there is no urgent need to improve his reading skills.

Many college faculty members would say that the student who cannot read at the freshman level should not be in college. But many faculty members while agreeing dare not put their courses on such a basis. Why? Some reasons that might be given are that the professor might not have sufficient number of students to make it worthwhile to offer the course, students would complain and the number of F's and D's turned into the registrar's office would skew the curve unfavorably.

Let us turn to another point of view and attempt to see what might be done by both student and teacher.

The college faculty should create a recognition of need on the part of their students. This can be done in many ways such as in making assignments, asking students for points of view of other authors, discussing issues not always specific questions and examination questions based on outside readings not covered by lectures.

Faculty members interested in developing needs for reading also must recognize that college reading is different from elementary school reading. In the elementary school materials supposedly are chosen for the individual level of the children reading it. But in college the material written is not for the reading level of the average college student but too often for professional teachers. Therefore, the family members must give the college student every means of assistance in grasping and understanding the material assigned for reading by vocabulary preparation and by pre-explanation of material too difficult for the student level of progress, e.g. science. In other words, every teacher needs to be a teacher of reading.

The college faculty member can make the student aware of the necessity of those ways of building vocabulary. The faculty member can show how familar words may be attacked; how words are used in the text and the important and significant vocabulary for that particular course.

We must not overlook other ways that faculty members can assist students. A reading of Dr. Triggs book, "Improve Your Reading," will give startling information to most students. Many students are not aware there are at least four ways to read.

The above discussion may appear to be elementary. Let us, therefore, look at another possible need. This need may be called maturity level of reading. Gray, in discussing "Nature of Mature Reading" in a report on the Conference on Reading—University of Chicago, 1954—says:

"Mature as used here means: a combination of traits that make for full, rich, and efficient living with abundant capacity for on-going development. Witty in attempting to obtain maturity in readers focuses on: clear grasp of meaning and speed of reading. Witty identifies the efficient reader as: he reads for a purpose; he has a wide meaning vocabulary; he reads in thought units; he evaluates what he reads; he reads widely and enjoyes reading; he reads many types of material; he adjusts his speed of reading to the kind of material read.

1951 proceedings of this conference agreed that the mature reader had these characteristics:

1. He perceives words quickly, accurately, and independently.
2. He secures a clear grasp of the meaning of what he reads, not only literal meaning but also implied meanings and ability to make generalizations.
3. He reacts thoughtfully to what he reads.
4. . . . the efficient reader integrates the ideas acquired through reading with previous experiences so that wrong concepts are corrected, new insights are acquired, broader interest and rational attitude are developed, and a richer and more stable personality is acquired."

Are these characteristics of the mature reader needed by all students? Would we say these characteristics are needs felt by the students or are they the figment of the faculty members thinking?

McCallister speaking at the 1954 Conference on Reading held at the University of Chicago has these suggestions for meeting needs in improvement in reading. He says:

> "Improvement in reading consists essentially of four phases of growth . . . (1) developing new and varied interests, (2) gradually accumulating a body of concepts that enrich the reader's experience and increase his capicity for understanding and interpreting the printed page, (3) learning to use in reading the forms of thinking required in independent study, and (4) developing effective practices in locating and using reading materials."
>
> ". . . Among the essential forms of thinking to be encouraged by the teacher are (1) a search for the purpose or intent of the author; (2) the recognition of a problem and the formulation of a tentative hypothesis for its solution; (3) purposeful testing of the hypothesis by further reading; (4) careful examination of the writer's background, experience, and reputation in a particular field as one step in critical evaluation; (5) identification of a principle or process as one reads the illustrative materials that are used to develop it; and (6) formulation of conclusions or plans of action as a result of reading."

In conclusion it may be said that the reading needs of college students extend from the need for the basic elements, vocabulary, phrase reading, speed, comprehension, etc. to the level of mature reading as discussed by Gray, Witty, Center, and others. As someone said that essentially students read for two reasons: first, they are threatened with a test or term paper and secondly they want to learn something.

APPRAISAL OF READING SKILLS IN RELATION TO EFFECTIVENESS OF TEACHING AND LEARNING TECHNIQUES

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The concept of appraisal or diagnosis of reading skills is not new. It goes back to the most fundamental of all principles of psychology, that of individual differences. We appraise or diagnose in order to get a proven picture of the status of development of the individual at a particular time. This picture, obtained through diagnosis, is used as a guide to aid the individual toward more efficient future development or perhaps for some kind of study of group patterns. It is the former use of diagnosis that is, to aid the individual in his learning, however, in which we are interested. Let us look at our present practices in regard to diagnosis or appraisal of one important aspect of the development of the individual, his ability to read. Perhaps there is no more important aspect of an individual's social development than his ability to read, for it is the basic skill through which he can develop intellectually, personally, and culturally, and it is through this tool that a society maintains a free and mentally healthy citizenry.

We are not at this time using teachers' or students' time efficiently. We must not only teach but we must appraise learning and modify our day-to-day teaching in the light of that appraisal if we are to do our job efficiently. There are far more schools not regularly appraising the results of their teaching of reading skills than schools which are doing so. How do we know what to reteach and how to reteach if we don't know exactly how much each student learned of what we taught?

We have been far too general in our teaching. Why? We have fallen into this pattern because generalities do not require careful analysis; diagnosis and appraisal are all hard realities to meet and execute. Why do I get a college student, who knows not the first principle of how to approach a technical word met for the first time in his chemistry, or why do I get a student in psychology, who makes 104 spelling errors in a five-page open book classroom assignment?

Why do I get a freshman student of good measured ability, well-motived, who has consistently had difficulty with learning throughout his years in school, but who has been promoted year after year and who must now in college learn why he has had these difficulties, and build good skills, or his formal education will be terminated at this point?

These failures are due to too general teaching. A teacher with a clear concept of specifically what is required to be a good speller would have diagnosed the difficulty which the student had who couldn't spell, and would have helped him specifically to learn to spell, and would have appraised the learning which took place until he learned to spell. It was not enough to give him a list of words to memorize, a classification of words by hard spots. This same student, when he met technical words new to him had to ask what they were. He had no ability to approach systematically a new word and solve it. Yet he had been through the usual approach to the teaching of reading, spelling and language.

What it is I am asking for then, is to help us meet these problems as we face them at the high school and college level? Specific and careful diagnosis of the status of the student's learning and his potential to learn, and then specific teaching following this diagnosis to see that he learns just this if nothing more.

A very significant question was asked this fall during the Educational Records Bureau Conference. If the colleges get the larger number of students by 1965, which it is predicted they will, what will happen to the student who has up to that time failed to read efficiently? Can it be expected that remedial services as now maintained can survive when every inch of floor space and all of every teachers' time must be used as efficiently as possible? Now is the time to develop procedures and teaching techniques which will help to avert later trouble. Colleges can not dodge the issue by saying they will chose their remedial services because the job should be done before the student gets to college. Who teaches the teachers who taught the student who fail to learn? Are colleges not a part of the community and therefore do they too not have responsibility for what is done in our local school systems we are so proud of? No, we are all in this together. We will take our responsibility or the job will not be done. No groups can isolate themselves and say someone else should do it.

And what does this have to do with appraisal or diagnosis of reading skills of high school and college students? A great deal. If students come to us with inefficient learning skills, then we should measure the students skills, find out specifically what is needed to improve those skills and teach specifically those skills, not put him in a group of 25 and hope some portion of the work in a reading manual may help him. If the student has come this far with poor skills, then we know he has lost out on a good deal of learning along the way, but we also know that the difficulty should be removed as quickly and efficiently as possible. He has lost as much time as he can afford. We have learned the importance of early diagnosis of cancer, mental illness, and other problems which human beings meet. This knowledge may be applied directly to the high school and college student who can not read efficiently enough to learn. And, if cancer is diagnosed, generalized treatment is not given but specific treatment which will help the patient with his exact difficulty. And lastly, there is constant appraisal and reappraisal to determine whether progress in the area of treatment is being made. We not only can not afford to delay treatment for the good of the individual; we can not waste the time of the person who is doing the treating in generalized hit or miss treatment efforts, for his time must someway be made adequate for the task at hand.

Nothing I have said is in conflict with the true liberal arts tradition. The liberal arts curriculum doesn't mean generalized exposure to superficial learning. At the end of the true liberal arts curriculum is a student well-disciplined to handle further learning on his own of a specific nature because he has the background and skills necessary to do so.

What further assumptions can we make which can help us in handling efficiently and specifically the student who is a poor reader?

First, when testing his reading skills we must determine in what basic skill areas he may be deficient: word recognition, vocabulary, comprehension. Second, we must determine the pattern of his potential ability for learning — his scholastic aptitude. This may be of several kinds, and at least two of these kinds should be measured: verbal and performance or quantitative. Third, we must determine what behaviour patterns the student has developed which will affect the way he uses the abilities he has to further his learning.

Even more specifically than this, we know that we often find that the poor reader is an over-dependent person, lack-g in the ability to plan his own time and learning tasks ven when his learnings are well planned with him. We may nd that he has become overdependent on the superficial etails, being upset by anything which takes him out of his estricted habit pattern and causes him to be insecure. Why hese learning patterns, we ask, and various modifications them? That question may not be answered easily in terms f the facts we have at hand. If we can use the information e have to help the student face successfuly the learning sk, perhaps we do not have to know why. Further, we know at these poor readers often come from the classroom where eir written work has been done as busy work not to be refully appraised by their teachers. In such cases they re becoming proficient in their errors — not progressing in eir learning. The teacher has tried to do all the evaluation erself. A teacher must help a student to evaluate his own ork, to some extent at least. This is often the first step in arning.

It is because of some of these conditions that we are getting many students who have poor word recognition and basic kills unlearned such as inability to spell, poor techniques r approaching a new word not in their spoken vocabularies, nd who fail courses which require close attention to words like configuration or pattern in order to understand or ink accurately in an area of learning. For example, chem- stry requires making a careful distinction between such ords as **hydrochlorous** and **hydrochloric** because the valence the two differs, or words may have prefixes of similar attern "hypo" and "hyper."

There seem to be several reasons why such conditions con- nue to exist when a careful analysis of data is made. First, e now know that many of our students who are poor readers re the ones with high measured intellectual abilities in the erformance or quantitative area and poor measured abilities the linguistic area. Is this our training or is it a basic in- ellectual difference? This question can not be answered ith certainty at this time. But there are several things we o know which would help us in the teaching of reading.

Such differences are usually apparent early in the school ife of the individual. The general pattern does not change ut may become more intense. In this, these abilities tend o be like measured interest. The pattern usually does not hange with age, but the areas become more differentiated

—the high ones become higher and the low ones become lower, relatively speaking. If we can find this difference in measured intellectual abilities at an early age, and usually we can, we should use it to modify our reading instruction in accordance with the findings. In general it is these students who have high performance scores and low verbal scores in a test of scholastic aptitude, who will become our poor readers. If they were given extra help early in their careers — more readiness instruction of a specific nature — form discrimination, sound discrimination, kinaesthetic and rhythm drill, left to right awareness — and specific reading instruction delayed until we are sure these children can profit from such instruction, the results would probably be more positive.

For these students all instruction must be meaningful. No attempt to teach sight words should be made until these words are in the individual's auditory vocabulary. Never force a student up and on until he can profit from next steps, and above all we must pay careful attention to his reactions to instruction. It may take these children four years to do three years' work in the primary years. When grade barriers have been removed during these years and the same teacher teaches them during these beginning years, many pitfalls are avoided. The teacher should be helped to appraise the child's learning, and given help to know better the potential of each child in order that he will at all times be challenged, but not pushed.

We cannot tell a teacher at what mental age she should introduce phonics. We can help her to introduce a modified phonetic approach when the child has in his sight vocabulary words which may be analyzed phonetically and when the child has demonstrated a readiness for the work.

Every teacher must teach every day and at every opportunity the basic reading skills so long as he has in his class a student who has not fully developed these skills, and even after his class has these basic skills, every teacher at all grade levels, high school and college, must teach their application as a routine part of teaching. It is then, and only then, that we at the high school and college level will not be getting students who can not do their work because they can not handle the reading problems involved.

A discussion of the teaching of reading at the lower grade levels is appropriate for discussion here because if our future teachers and future parents are poor readers, pretty certainly our future students will be poor readers. We will perpetuate the pattern which is gripping us now. The cycle must be broken somewhere. If students come to us as poor readers, we must take them from where they are and make good readers of them. It can be done if persons working at all levels understand the way reading is and should be taught from the nursery school through college. Also, many of these college students, now poor readers, will pretty certainly be our future generation of teachers. Every teacher should know how to test the basic reading skills through the choosing, giving and interpreting of standardized tests, and how to teach students specifically in terms of the findings of these tests. We pay large sums of money for remedial services, but a like effort is not usually made to improve teaching of reading in the classroom. It seems that remedial teachers' time would be better spent if they helped the teachers make their teaching meet more closely the needs of the individuals in their classrooms. These teachers need help to understand why we group, how to follow test results modified by day to day observation and constant reappraisal as the basis of grouping. Remidal teachers who understand this could help teachers form their groups and help in the reappraisal necessary to be sure each child is learning. Grouping according to reading level should be done not only the primary grades but all the way up our educational ladder.

How does all of this affect the appraisal of the reading needs of high school and college students? If in our high schools and colleges we survey the reading skills of all entering students, using a standardized survey reading test, and then use diagnostic tests to determine why the poor readers can not read better and we give them specific help with the specific skills they need to develop, we have taken a first major step in teaching them. A reading service can also help instructors to understand the reading problems inherent in their subject-matter material. Some will say they don't want such help, but many do. The English teachers want help with improving the spelling skills of their students. The literature teachers want to know how to help students in their classrooms with the reading skills most pertinent to reading literature. The mathematics and science teachers want help with the classroom approach to the specific problem of reading in their subject-matter areas.

I want to dispell any idea that all reading instruction should be individual instruction. If materials are properly set up to follow the test results, students may be helped by the classroom teacher and the college reading clinician to do the special practice work in the areas where they need help without the constant individual attention of the teacher. The instructional materials should be self-administering and should be specific. If we want to improve a manual skill we don't teach him by having him read about that skill. We set up well-spaced practice periods and have him actually practice the skill in the prescribed way. This we must do in reading. We cannot expect results by a generalized approach which may or may not include the kind of specific practice this student needs. And the student should understand what he is doing, why he is doing it, and take responsibility for it. And we must constantly help him to appraise the success of his efforts to learn specifically and in terms he can understand. This is probably the best motivating device we have ever devised.

In conclusion, I think that we must modify our teaching of reading if we expect that the number of poor readers who graduate from our colleges is to be reduced. There are many ways in which this could and should be approached, but the one I am suggesting is that in our high school and college reading services, we first diagnose specific reading skills: word recognition, comprehension and vocabulary; second, that we give specific instruction in the area needed; third, that we send the student back to his classroom with the basic reading skills necessary for the job of coping with reading in the content subjects; and fourth, that we then help our instructors show students how to apply these skills to their content material. We may have to help individual students with this application of these skills to their content reading for some time to come. At the present time our reading teachers are usually paying more attention to this than they are to seeing that the poor reader develops his specific reading skill. How can he apply them if he doesn't have them? The first step is to be sure the student has the necessary basic skill and the second is to help his instructor to help him to apply them, or when absolutely necessary, help him ourselves to apply them to the subject-matter areas in which he is working. However, our efforts will go further if we help those who teach in the content areas to do this job. More students will ultimately be served this way.

The cycle which has developed of the poor reader being promoted until he becomes the parent and perhaps the teacher of more children in another generation can be broken if we who teach take as our job instruction in specific reading skills, using standardized tests as our guides to the instruction the student needs; if we help students to apply these skills efficiently as they meet new reading situations; and if we constantly reappraise the progress of the student along the way.

CURRENT GOALS OF COLLEGE READING PROGRAMS

William Eller
State University of Iowa

After college reading has been considered from social, intellectual, semantic and physical standpoints, a summary of the goals of college reading programs seems rather anticlimatic, or even boring, at first thought. However, there has been a noticeable change in the goals of college-level reading instructors since the first meeting of the Southwest Reading Conference, and this metamorphosis may be worthy of examination; further, there may be some value in observing the direction of the change.

The first meeting of this organization was designed to be "practical," and an examination of the first yearbook indicates that the conference was definitely devoted to the day-to-day problems of establishing and running a reading program for a college or industrial agency. The inaugural conference in April, 1952 was attended by quite a number of people who were not at that time operating college reading programs, but who suspected that they soon would be. In short, then, the 1952 meeting was set up so that reading instructors whose programs had been functioning for a few years could share their experience with prospective reading teachers whose programs were in the process of development. The meeting apparently served its intended purpose, because a number of college and industrial reading programs in this region have been organized since by instructors who attended that conference.

Once the mechanics of teaching and administration had been dealt with, as they were in the two 1952 meetings, emphasis in succeeding conferences shifted in the direction of the more intellectual aspects of reading and away from the mechanical aspects. This shift is probably attributable not only to semi-satisfaction with the handling of the mechanics of reading teaching, but to the increasing security of the instructors, a security based largely on the acceptance and approval of reading improvement programs by college and business executives.

With the attainment of a fair amount of stability, one of the major changes in goals has been in the direction of a broader concept of reading in the total communicative ability of students. One aspect of this new goal is concern for the more serious aspects of comprehension. In the recent past, too much attention was given to the sort of comprehension which is usually taught in connection with speed reading exercises. Of course, it is important to check comprehension after speed drills, but it is no secret that these check tests deal mostly with lower-order comprehension skills. The present concern is with the more intellectual comprehension skills — the ones that are essential to high-level understanding of the sort of context encountered in respectable college courses. Critical reading ability, facility with the study skills, and abilities in organization and generalization are some of the important components of higher-level comprehension as it is now being pursued.

Vocabulary development has seen a parallel change in the goals of college and adult reading instruction. A few years ago, the major efforts were directed toward enlarging the general vocabulary of readers, even though instructors were not certain as to which words should be taught. Some reading teachers have always resisted general vocabulary teaching with the argument that it seemed to be a rather blind approach, and they have succeeded in changing the emphasis to the teaching of specific vocabulary which is of more immediate value. In addition, the trend is toward teaching the appreciation of semantic variations in words.

Another goal, one which is just taking form, calls for training in listening, especially in the college programs (as contrasted with industrial programs), inasmuch as college students have to learn so much by listening. This goal is probably most energetically pursued at institutions in which reading training is part of the communications skills program rather than a separate academic unit.

The fourth goal to be considered as a part of the major emphasis on the total communicative picture is an effort to help instructors in other academic areas improve the reading of the literature of those areas. The least half decade has seen quite an increased interest on the part of faculty members in the various disciplines — an interest which stems from the realization that students who can't read sociology or botany won't learn efficiently from the books and periodicals on those subjects.

The original concern with the relationship between eyesight and reading has given place to the more inclusive problem of the correlation between vision and reading. Progressive optometrists have become so concerned with the broader meaning of vision that they derisively refer to some of their less-modern colleagues as "eye-ball optometrists." While the epithet itself is not important, it emphasizes an increasing awareness that vision involves a lot more than the mechanics of the eye, in reading as in any other activity.

Another change in the goals of college reading programs has resulted in a more varied teaching approach. Most conscientious college reading teachers realize that the students referred to them for help are suffering from deficiencies and problems that are so diverse that no single teaching approach would be adequate, or even useful, for all. In addition to the provision of more than one reading course, this recognition of individual differences has resulted in more modification of the reading instruction while it is in progress.

In the area of research and evaluation, the newer goals lead in the direction of more complex statistical tools such as factor analysis, to more long-range research programs, and to better measuring devices. As to the subject of the research, there is an apparent tendency to delve more into the relationships between reading and personality or emotional factors.

From the foregoing, it would seem that the goals of college reading programs have changed markedly and creditably in the past four years. They have. However, in any academic area, there is danger that reports of satisfying progress will lead to the conclusion that the subject has "arrived," and that most of the problems have been solved. College and adult reading instruction has not "arrived" in that sense, and it must be expected that in another four years, an equal or greater metamorphosis in goals can be identified.

PART TWO
DISCUSSION GROUP ONE

ADULT READING PROGRAMS: GOALS AND TECHNIQUES USED
RECORDER'S REPORT

Earl Denney
Tulsa, Oklahoma Public Schools

The great emphasis that continues in adult education includes a growing interest in improvement in reading of adults. Many universities and some public school systems give some attention to adult reading improvement. This subject has received a great deal of attention from the military forces of the United States and also from many companies in industry who seek to improve the efficiency of their personnel.

Improvement of reading is usually approached through the following avenues of attack:

1 — Improvement of the "psychological set" of the individual. Attempt is made to show the person how he can improve his performance in reading.

2 — Increasing the efficiency of eye performance by enlarging the span of perception and increasing the speed with which the eye delivers interpretation of the precept. This speeds up comprehension and facilitates getting over the printed page.

3 — Opportunity for increasing the vocabulary where such need exists. Thus, concepts are built, giving a broader foundation for comprehension.

The following are condensed reports of addresses delivered in Group I, Adult Reading Program.

AIR FORCE READING TRAINING IN THE PENTAGON

Edmund N. Fulkner
HQ USAF Reading Improvement Laboratory

The Air Force has been offering reading improvement training in the Pentagon since May, 1949. In that time over 5000 officers, civilian employees and enlisted personnel have received training.

The training offered is primarily for Air Force officers and key civilians at Headquarters. Students range from an occational enlisted man, who is required to do a great deal of reading, to generals and presidential appointees.

The staff of the Reading Laboratory consists of: 2 Psychologists, an Optometrist, an instructor whose major fields are Speech and English, plus a clerk-instructor with an undergraduate degree in Sociology. The 5-man staff functions as a team, motivating, counseling and guiding the student in his attempt to improve his reading ability.

A wide variety of motivational and instructional techniques and devices are employed to attempt to best meet and satisfy varying individual's needs and abilities.

The course is a voluntary, performance or laboratory type course organized to allow each individual to work at his own level and progress at his own rate.

To accomplish the above objectives, the course has been divided into 4 phases: 1) **A Diagnostic Phase; 2) A Guided Practice Phase; 3) An Evaluation Phase; and 4) A Follow-Up Re-Evaluation Phase.**

The Diagnostic Phase: Before training begins, each student is given:

a) A visual screening battery in which the Bausch and Lomb "ORTHORATER" is used together with the American Optical Company **Opthalomograph** motion picture eye camera. A brief visual history questionnaire is filled out by each student and in some cases, supplemental visual tests are employed where deemed necessary by the Optometrist.

The information gathered through this visual screening is used to exclude from training those individuals whose vision is deemed to be presently or potentially a handicap in reading. This information is further used to refer persons with less serious problems to competent vision specialists for corrective treatment prior to, or concurrent with, training in reading improvement.

b) A 100 item untimed general vocabulary test is given to get an estimate of the recognition vocabulary of each student. For the past year the vocabulary part of the Nelson-Denny Reading Test has been used. The mean vocabulary score is 74 items right out of 100 when no time limit is imposed. The range of scores is from 17 right to 98 right out of 100.

c) Two general reading tests are also administered. At the moment, Part 2 of the **Cooperative Reading Test,** Higher Level, is used together with the PRE and POST READING TESTS, published by the PERCEPTUAL DEVELOPMENT LABORATORIES of St. Louis. (The latter are being used experimentally to evaluate their comparability and reliability on our population.)

The Guided Practice Phase: This is the actual training phase of the course. An attempt to accomplish course objectives and meet varying individual needs is made through a series of short talks, personal interviews, reading pacer practice, timed and untimed workbook exercises, individual tachistoscopic training, handout material, and reading training films.

All data on the student including all test scores and results of all practice including periodic progress tests are recorded in the student's class folder. A maximum of 128 students are enrolled in any one 6-week course. Each student is assigned a personal staff adviser. This means that each staff member, with the exception of the clerk-instructor, is primarily responsible for coaching approximately 30 students. At the outset, the Optometrist selects for interviewing and counseling all students who have real or suspected visual problems. The remaining students are randomly assigned to the other staff members. This totals a maximum of 8 students per staff member per class hour.

A Certificate of Training is awarded each student who completes a minimum of 25 class hours of practice including all initial and final tests.

The Evaluation Phase: Reading is a highly personal, complex and abstract process. How well the training offered accomplishes our objectives can be ascertained only indirectly by collecting and weighing both subjective and objective information. At best, a rough estimate is all that can be expected.

Throughout the course, the student is encouraged to continually and conscientiously apply the principles learned to his job and other reading.

Students are consistently unanimous in their unsolicited testimonials about how much the course has helped them. To sample subjective reactions more systematically, a "Course Evaluation" questionnaire is filled out anonomously by each student. A sincere appeal is made to the students to be frank and honest in their comments expressing both positive and negative feelings freely and fully.

Objective data consists of carefully controlled and standardized administration of alternate forms of the **Cooperative Reading Test** and the **Perceptual Development Laboratories Test.** A final **Opthalomograph Test** is also given.

This information gathered immediately after training is accepted with some reservations due to the fact that they may reflect only temporary gains. To sample long range gains the following phase has been added.

The Follow-Up Re-Evaluation Phase: Six to fifteen months after the completion of the course, all students are asked to return to the Laboratory for re-testing. Again, the students are asked to anonomously fill in a **"Course Evaluation"** questionnaire and take alternate forms of the **Cooperative and Perceptual Development Laboratories** tests, as well as another **Opthalomograph** test.

Several research projects are planned for the coming year. Within several months we should have some fairly safe information about the equivalence of the recently published **Perceptual Development Laboratories** "Pre and Post" Tests. This and any other information you may desire is available upon request or visit to our Reading Laboratory.

CHANCE VOUGHT AIRCRAFT READING TRAINING PROGRAM

J. E. Oakes, Jr.
Chance Vought Aircraft Corporation

Courses in "Reading Speed and Comprehension" are offered to Chance Vought Aircraft employees for the purpose of increasing the efficiency of the individual. Our reading program is under the jurisdiction of the Personnel Training Section. Training in the aircraft industry has a two-fold purpose: first, to train an individual to meet the requirements of the job; second, to train him to be more efficient on the job and in fields that will enable him to take on additional responsibilities. Reading falls in the second category. The "Training Section" is a service organization, and as such operates at the request of other groups within the organization.

Courses which are offered are almost as comprehensive as those offered on a college campus. We are expected to provide supplementary training in order that the employee might do a better job or a job at a higher level. In the technical aspect of this phase of our work we provide training in everything from shorthand to special radar equipment. Subjects range from conference leadership and public speaking to Pigor's **Incident Process** and **Harvard Case Studies.** Included in this category is training in reading speed and comprehension.

A number of our people have participated in our undergraduate program by taking reading training at one of our local Universities.

The original request for reading training at the plant came from Engineering. We purchased the Viewlex, Timex and Controlled Reader with films and procured the services of Dr. O. S. Causey for the first class. Those who completed twenty-four hours of training showed an average gain of 106%. All who enrolled were enthusiastic about the program.

There are two groups in session at the present time. One group is composed of employees from the Personnel section while the other is made up of executive personnel from the Engineering Department. The group from the Personnel Department started with an average initial score of 230 words per minute. After twenty hours of classroom work they have made an average gain of 102%. The group of engineers started with an average initial reading score of 249 words per minute. This group has been in session only six weeks. One individual started with an initial score of 460 words per minute and is consistently reading with an effective score of better than 1200 words per minute. An individual who is totally deaf took the course for the purpose of increasing his lip-reading ability. He started with an initial score of 340 words per minute and is now reading fairly consistently at around 800 words per minute.

In reading training, proper motivation of the individual is important. He must be sold on the idea that he can read faster and learn more and that by developing proper habits he will expend less effort with increasing reading efficiency. I feel that the real need for reading training is with employees who have too many responsibilities to attend regular sessions of a reading program. The answer then in training these people may be in the development of training aids which can be used at the individual's leisure at his desk, this being supplemented by conferences with someone on the training staff who is thoroughly familiar with all the techniques of reading training.

In addition to the reading classes, we have just completed a series of thirty minute daily sessions with ten key-punch operators. In these sessions we used only the Timex, flashing numbers on the screen. This group developed to the point at which they could take five-digit numbers accurately at 1/150 of a second. We worked with numbers up to eight digits. The group eventually was able to perceive an occasional eight-digit number at 1/50 of a second. We are hoping for some new ideas from this group to improve our training techniques.

Throughout its thirty-eight years of successful operation, Chance Vought Aircraft has recognized the need of developing the personnel within its organization. Every opportunity is given the individual to develop and to progress according to his own merits and abilities. This is sound reasoning. The company feels that it owes a great deal of its success to this philosophy.

READING IMPROVEMENT IN BUSINESS

John W. McMillan, Jr.

Humble Oil Company
Houston, Texas

As we heard more about "Reading Improvement," we listened to complaints from managers and supervisors about their increasing reading load. The suggestion of "Reading Improvement" was followed closely by an investigation of its possibilities. This investigation indicated that if we obtained a fraction of the improvement claimed, we could restore about one day a week in which "high-priced" personnel could create, plan, and coordinate their sections of the business.

The more we learned about "Reading Improvement" the more we knew we needed help. Mr. Dave Hunt of our training division was given the assignment of developing a reading program. He got invaluable help from Dr. Oscar S. Causey of Texas Christian University, Dr. Albert J. Kingston, formerly of Texas A. & M., and Dr. Selma Herr of Tulane University. With these authorities, Mr. Hunt developed a program which we feel is both effective and easy to administer.

We use the same gadgets that most people use: pacers for individual work; a speed reader and the tachistoscope for group work. We feel that the use of the tachistoscope can be justified for only two reasons. One, to prove to participants that they can see more than one word at a glance. What his own eyes tell him he believes. Secondly, for motivation, the gadget attracts and holds attention and concentration.

We found early in the program that the easiest way to get someone to do something is to first get him to want to do it. We requested DIVISION HEADS to select those from their groups who were anxious to improve. We also pointed out that of those submitted only a few would be chosen because the demand for the course exceeded our capacity to accommodate. Strange as it may seem, this created a demand which further exceeded our capacity.

Another incentive was added. Most people seem to do better when they have something to work for, so we suggested that each person try to double his beginning reading score. We pointed out that although some would more than double, at least it would provide a target to shoot at. Each man recorded this goal on his progress card.

In the beginning the class was told that attendance and make-up sessions were voluntary. The result was that we had attendance problems. Beginning with Course III we failed to mention that either attendance or make-up sessions were voluntary. When a person missed a class we would call and ask when he could make up. To this day, no one has thought to ask us if they had to make up. They accept it as part of the training and do what is expected. In Course III the percent of increase gained that was retained one year later increased from 48% to 61%. Better attendance and make up of absences was the only accountable difference. We feel that good attendance is worth working for.

Management looked at our improvement figures and asked, "How do we know that this improvement isn't temporary? Suppose that old habits of long standing reappear and resume command of the reading function; aren't we back where we started? We got the answers for management by testing participants one year following the end of their training. For measuring beginning status and progress, we use the Diagnostic Reading Test series. We take measurements at the beginning, mid-point, and end of the training and again a year later. Our experience indicates that they retain approximately 50% of their original gain. The following table gives information in more detail.

EVALUATION OF READING IMPROVEMENT TRAINING BASED ON THOSE TESTED ONE YEAR AFTER COURSE

	Course I	Course II	Course III	Avg.
Reading Rate — w.p.m.				
Beginning	277	308	280	285
Close	511	505	554	524
Increase Over Beginning - w.p.m.	234	197	274	239
Increase Over Beginning - %	84.5	64.0	97.9	83.9
One Year After Course	350	385	438	386
Increase Over Beginning - w.p.m.	73	77	158	101
Increase Over Beginning - %	26.4	25.0	56.4	35.4
Comprehension — Per Cent				
Beginning	73.3	70.0	77.3	73.9
Close	86.1	85.0	87.5	76.3
Increase Over Beginning - %	17.5	21.4	13.2	16.8
One Year After Course	82.0	81.7	79.6	81.1
Increase Over Beginning - %	11.9	16.7	3.0	9.7
Reading Score				
Beginning	204	216	218	211
Close	443	433	490	456
Increase Over Beginning - %	118.0	100.0	125.0	116.0
One Year After Course	288.0	319	352	316
Increase Over Beginning - %	42.0	48.0	61.0	50.0
				Total
Number Tested One Year After Course	18	9	13	40
Number Completed Course	22	13	20	55

DISCUSSION GROUP TWO

PHYSICAL DISIBALITIES IN RELATIONS TO READING: GOALS AND TECHNIQUES USED IN TREATMENT

RECORDER'S REPORT

Paul C. Berg
University of Florida

Group meeting "2" was concerned largely with the discussion of three reports dealing with physical disibalities in relation to reading and the goals and techniques used in treatment.

Dr. Ralph Ewing, optometrist of Fort Worth, presented several ideas on visual functioning and inferred its relationship to the reading act.

He discussed vision as a biological, physiological, psychological, and neurological process. The result, vision, is learned as a defense mechanism for the preservation of the species. Dr. Ewing further related the changing role of vision from a comparatively simple, far-point activity with low comprehension demands, to the complex visual functions of today. Thus, Dr. Ewing said, visual problems arise, not because of pathology of the eye or "eye-ball problems" but because the organized responses to today's highly complex visual tasks are made which do not conform to the best functional visual hygiene. A continued repetition of these inferior types of functioning tends, in time, to modify the structure. Therefore, Dr. Ewing continued, because seeing is the mechanism upon which reading skills are built, when a functional disorder or a faulty modification of the eye mechanism structure is present, the optometrist must prescribe corrective lenses which are simply a protective device against the impact of the stimuli of everyday life, or recommend visual training which reorganizes the method of reception of the mechanism.

Double vision, Dr. Ewing said, makes us least likely to survive of all visual problems. Visually, crossed eyes are caused by an adaptation to eliminate this double vision. Such problems of vision as this, and others, make the concept of "20/20 vision" of ilttle importance in the evaluation of visual performance. In fact, any one finding has little validity. Only a syndrome, determined from a battery of findings, has validity.

Dr. Edward Pratt, Southern Methodist University, Dallas, spoke on auditory disabilities relating to reading. Speech and listening, Dr. Pratt said, are the background of listening experience. Thus the ability to hear is an important influencing factor for the development of the meaning of words. For effective response/oral discourse, the ear must be able to receive stimuli, differentiate among stimuli, and interpret the stimuli that are received.

A consensus of studies, Dr. Pratt said, indicated that about 5 per cent of school children suffer from a hearing loss, although of this number, not all indicate a difficulty great enough to preclude speech sounds. Of these, however, whose hearing loss is as much as 35 decibles, hearing loss will be great enough to affect the ability to differentiate among spoken language symbols, thus adversely affecting the general bockground for reading.

The classroom teacher, according to Dr. Pratt, should be alert to observe any student who might be suffering from hearing loss and refer such anone for audiometric testing.

If he is found to have a hearing loss severe enough to make reception of speech sounds difficult or impossible, then, according to Dr. Pratt, proper medical treatment should be instituted, or training in lip reading should be provided.

Diagnosis should also indicate the person's auditory discrimination of initial consonants, word elements, and the like. Diagnostic tools for this include reading readiness materials, and diagnostic tests designed for use with specific basal readers. When specific disabilities in auditory discrimination have been diagnosed, Dr. Pratt says, related instruction should be provided. Instructional procedure in re-teaching should be similar to instructional procedure in initial teaching. Listening for the specific sound should come first, followed by discrimination between the given sound and other similar sound elements.

Miss Carrie Shepherd, Southwest Texas State Teacher's College, discussed other physical disabilities in relation to reading.

Although a review of the research did not clearly correlate a specific physical disability with reading retardation, there was a general consensus that physical disibilities such a endocrine disturbances, infections, and the like may adversely affect reading.

The following steps were outlined as guides to those of us working with students:

1. An attempt should be made to find where each students is, not only in terms of reading ability, but also in terms of physical development.
2. When serious difficulties are suspected because of observations and/or screening tests, cases should be referred to a specialist. Examinations should be as complete and as detailed as possible.
3. The report should be used however possible in guiding any work done with the person.
4. The data should be used for a basis for interviewing, counseling, and establishing rapport with the student in ralation to reading problems in particular.

Dr. Donald E. P. Smith, University of Michigan, led the discussion at the conclusion of the reports. Study continued of the chart used by Dr. Ewing during his report. This chart, "Diagrammatic Interpretation of Vision," designed by the Optometric Extension Program, Duncan, Oklahoma, attempts to diagram the complex physical and mental process at work during the act of vision.

The question was also raised and discussed relative to the removal of congenial cataract and the training implications involved after the patient had achieved adulthood.

Dr. Mary Karraker, Crippled Children's Society, told of her work, especially as it related to testing and treatment of the small child with hearing loss. Dr. Karraker, in answer to a question described and discussed her success in the use of P. G. S. R. for determining hearing loss with small children.

VISUAL DISABILITIES IN REGARD TO READING PROBLEMS

J. Ralph Ewing, O. D.
Fort Worth, Texas

Visual disabilities, which in optometry are referred to as "visual inefficiencies," are not physical problems per se. A few of the definitions used to describe vision are: Seeing is mind seeking knowledge. Seeing is mental interpretation. Seeing is the learned skill of interpreting the environment of the organism. Seeing is primarily designed for self-preservation. Seeing is controlled by, and inversely feeds back into the controls of the total action system of the organism.

Dr. Arnold Gesell, formerly director of the Yale Clinic of Child Development and now head of the Gesell Institute, has written extensively on the infant and child. He says, "To understand vision, we must know the child; to understand the child, we must know the nature of his vision" (2). Dr. Ward C. Halstead, Professor of Experimental Psychology in the Department of Medicine at the University of Chicago, says, "by studying vision we are not going from vision to intelligence. We are studying one and the same process." Professor Samuel Renshaw, head of the Department of Experimental Psychology at Ohio State University says that seeing is learned and that "The limit to which visual perception can be extended through proper training is still unknown" (4).

Research in laboratories of many major universities of this country have definitely made obsolete the old anatomical anatomical concept of "eyeball problems." In fact, modern thinking in optometry just reverses that thinking and says, "Visual problems are not eye problems but can cause eye problems." All of us recognize and accept the adage, "Function alters structure." The functioning of vision causes structural changes that were for so long erroneously called "refractive errors." Dr. Gesell states, "Refractive errors which yield to optical correction are not in themselves likely to cause reading difficulties" (2). We see growing evidence that visual inefficiencies, rather than structural defects, are at the base of many reading problems. Visual inefficiencies are certainly not physical in nature but, rather, functional.

To give the proper background of vision I am going to use this chart which was developed after many years by some of the most astute minds of our era who deal with vision. It is called the "Diagrammatic Interpretation of Vision" and is used in many optometric offices over this nation to explain vision to patients. I will curtail the explanation since the full dissertation takes more time than is alloted to this subject.

DIAGRAMMATIC INTERPRETATION OF VISION

The EYEBALL is the end organ in the sense of sight. It is not the only light receptor of the body, since the skin reacts to light also. It is, however, the only receptor of light as far as vision is concerned. Its purpose is to convert light energy into nervous energy, which, as a coded message, passes over the optic nerves and eventually is distributed over a large area of cortex, which we know as the outer layer of brain.

The eyes have two functions which are commonly known as "focusing" and "centering." These two functions are controlled by two separate nervous systems of the body.

Focusing is controlled by the automatic, or involuntary, nervous system. Centering is controlled by the somatic, or voluntary, nervous system. Vision is the only function of the entire human action system where there must be precise coordination between the two nervous systems.

In the chart the little red (or brown) men represent the mechanism for turning and centering the eyes and are controlled by the voluntary nervous system. (See chart on page 90). The little blue men represent the mechanism of focusing and are controlled by the involuntary nervous system. As you see, we have a "team" for each eye. Each team must operate in a smooth, rhythmic, ballistic manner. In addition, the two teams must coordinate with each other in order to produce the "coded message," which is sent to brain, of a "quality" suitable to be meaningful.

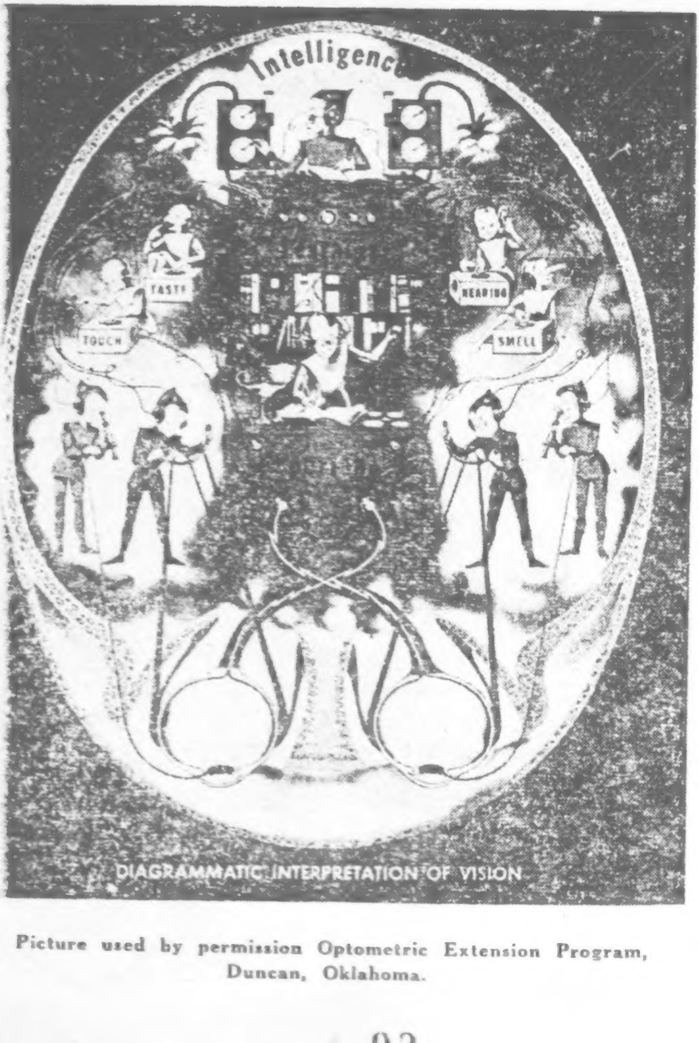
On the chart we see the "coded message" reaching a part of brain which is labeled "experience." We also see messages or information reaching this same place from the other senses, which are labeled here as hearing, smell, touch and taste. To illustrate the simplicity of this chart, only those senses enumerated in lower grade physiology are used. We know of many more senses which are just as vital to our self-preservation as these. Some claim there are as many as eighty senses. One that is vital is equilibrium.

You will notice that the diagramming of vision is much larger than the other senses. This is to remind you that a greater number of nervous impulses are fed into cortex from vision than all the other senses combined. For example, the ratio of input between vision and hearing, which is next under vision, is 120 to 5. To tie vision into the total action system, let me point out that Sir W. Stewart Duke-Elder, one of Britain's top eye specialists and Surgeon-Oculist to the King, says that 20% of the retinal fibres in man seem to be associated with the primitive photostatic rather than the higher sensory functions of vision (1). The work at M. I. T. of Dr. Warren S. McCulloch, Professor of Psychiatry at the University of Illinois College of Medicine, tends to allot an even greater number of the leads from retina to the balancing muscles.

"Experience" is that part of vision where brain decodes the message by "triggering" the recall of past experiences and gives meaning to the incoming coded message. We do not see just what is contained in the incoming coded message. The triggering of past experiences adds meaning to the input and gives us more meaning than input contains.

Consider the word composed of part of a circle, a full circle and a zigzag line (COW). What do you have? Absolutely nothing but marks if you have not had previous experience with them and cannot recall such experience. Yet, "visual acuity" or clearness of vision might be sufficient to enable one to detect the form of the lines even though drawn very small in size. Acuity is not the prime requirement of efficient vision. "Meaningful seeing" is necessary for achievement that even begins to approach potential.

When new information or experience is gained from the input, it is stored in the library of "learning" for use at


Intelligence
TASTE
TOUCH
HEARING
SMELL
DIAGRAMMATIC INTERPRETATION OF VISION

Picture used by permission Optometric Extension Program, Duncan, Oklahoma.

some future time. There are blank spaces in the library because as long as we live, we will continue to have experiences. It is doubtful that anyone ever learns enough to completely fill his own personal library. As more information is contained in this library, more efficient use of intelligence is assured.

Dr. C. V. Lyons and his wife wrote a paper, "The Power of Visual Training As Measured in Factors of Intelligence," published in The Journal of the American Optometric Association, Issue of December, 1954. It is a report of research done in their office which showed gains in usable intelligence following the employment of optometric visual rehabilitation methods. Many retarded readers do not respond to reading training until they have had visual care. If it was just "acuity" care, most of them still failed to respond, or showed limited improvement. Vision is the foundation on which educators build reading. The efficiency of meaningful seeing directly controls the degree of efficiency one is able to build in reading, presuming prior education has taught spelling, vocabulary and the other basic knowledge necessary.

This elementary discussion has not answered the question of "Visual Disabilities in Regard to Reading Problems." Basically, any interference with meaningful seeing will produce a retardation of all visual performance, including reading. We, as optometrists, consider reading the most complicated of all visual skills. It, therefore, requires relatively high degrees of visual efficiency.

Visual fatigue is not muscular fatigue. The late Dr. Walter B. Lancaster, eminent ophthalmologist, stated that the ocular muscles have a contractile strength of from 750 to 1000 gms., while the eyeball weighs less than 8 gms. He concluded, "so it would seem as though these muscles were amply strong enough to move so light a body which moves so easily" (3). Does this make you wonder about "crossed eyes" and "eye strain"? Visually, crossed eyes are caused by an adaptation to eliminate double vision which makes us least likely to survive of all visual problems. "Eye strain" is a signal (projected symptom) of an interference in achievement and a shift of controls to a higher control level. Both of these conditions interfere with our judgement of space and distance and with mental interpretation, and lower visual efficiency.

What part do lenses play in restoring the integrity of the visual act? How can they play a part in efficient reading?

Concave or convex lenses affect the "focusing" mechanism directly but inversely, through feed-back, affect the centering mechanism. Properly applied, lenses create a better rapport of the organism with its environment which results in more meaningful seeing with low cortical controls.

For this end result, lenses cannot be applied on a 20/20 visual acuity basis. In fact, 20/20 measures so little of the total visual functional act that it has practically no value in lens application, or evaluation of visual performance. Any one finding has little validity. Only a syndrome, determined from a battery of findings, has validity.

Once a conditioned response or behavior pattern has been embedded, lenses alone cannot restore visual efficiency. Optometry uses visual training to reorganize the pattern in order to re-establish the efficiency of performance. If the pattern is embedded, many times visual training must be given before lenses will have any efficiency.

Only a complete case study will reveal the deteriorations in visual performance. This is much, much more than an "eye examination." Professor Halstead, at the Heart of America Congress in Kansas City, November 8, 1953 said, "You do not reflect the eye; you reflect the cortex." With pride as an optometrist, I tell you that optometry is the only profession prepared by education and clinical experience to render this service to humanity.

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AUDITORY DISABILITIES RELATED TO READING

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Speech and listening activities are an integral part of the background of experiences which the reader brings to the printed page. For the beginning reader they constitute the background of language experience. Many abilities relative to receiving and expressing ideas through language symbols are established in the pre-school years. Reading requires the use of these abilities to interpret visual, rather than auditory, symbols. Auditory abilities and disabilities with respect to language will be important influencing factors as reading ability develops.

Nature of Auditory Disabilities. To make an effective response to oral discourse the ear must be able to receive the stimuli, there must be ability to differentiate among stimuli, and there must be ability to interpret the stimuli that are received and identified. Disabilities can result in relation to any of these elements of auditory perception.

Hearing acuity which will enable the individual to receive sounds in the frequency range of spoken language at the intensity level used in ordinary speaking situations is essential for effective participation in oral language activities. Davis (2) indicates that the most generally accepted estimate of the percentage of school children suffering some degree of hearing loss is 5 per cent. A large portion of those suffering some degree of hearing loss show an average of 20 decibels or less loss in the speech range. If the hearing loss is no greater than 20 decibels, hearing for language purposes is not greatly affected. Apparently, if speech symbols can be distinguished by the hard-of-hearing; their responses to those symbols can be similar to the responses of those who hear the symbols at a lower level of intensity.

Disabilities in the identification of basic speech sounds and pronunciation units may result from poor auditory discrimination in listening situations and poor articulation in speech situations. Sound elements may be confused unless the auditor is able to detect nice differences among these stimuli. As we attempt to speak, articulation and enunciation may be inaccurate. This inaccuracy may, or may not, affect auditory discrimination. At an early age we establish a pattern of behavior for identifying and using spoken language symbols. Our response may exhibit careful auditory discrimination, articulation, and pronunciation, or it may exhibit slovenly and inaccurate practices in regard to these abilities.

The third grouping of auditory disabilities is associated with interpreting or comprehending spoken language. In addition to identifying the pronounced words, we must be able to make certain responses in the listening situation if meaning is to be developed. These responses would include such skills as being able to infer relationships that are not specifically stated; being able to perceive main and subordinate idea relationships; being able to perceive the sequence of happenings in a story; and being able to react appropriately to the oral presentation. As in the case of symbol identification, habits are formed as we attempt to interpret spoken language; and disabilities may result.

Relationship of auditory disabilities to reading ability. As previously stated, speech and listening activities constitute the background of language experience for beginning reading. Listening and speaking ability do not insure success in the development of reading ability, because the skills of reading represent an entirely new area of learning to be mastered. The person who listens well and speaks well has a good language background for reading development. Inadequacies in speaking and listening indicate deficiencies in the language background which are likely to be reflected in the development of reading skill.

Persons with a hearing loss of 35 decibels or more are likely to be somewhat limited in the language background they bring to the reading situation. The ability to differentiate among spoken language symbols and the ability to interpret spoken language symbols will be affected by such a handicap. If these limitations are present, the general language background for reading will be adversely affected. A decided hearing loss may cause the individual to become socially and emotionally maladjusted which would also tend to affect progress in reading.

The degree to which identification and production of speech sounds affect the development of reading ability is partly related to the methods used in the teaching of reading. If phonics is emphasized as an important aspect of independent word identification, these oral language skills will have a direct bearing on reading development. If phonics is not stressed in the teaching of reading, identification of speech sounds will still have an important affect, since disabilities will influence the size of the speaking-listening vocabulary.

Phonics enables the pupil to use his knowledge of pronunciations and ability to hear the basic speech sounds in the independent identification of the word symbols used in reading. Inability to discriminate between the initial "f" and initial "v" sounds would lead to confusion on the words "very" and "fairy". Other difficulties of a simular nature may occur as he attempts to associate sounds with letters. Substitution of the "t" sound for the "s" sound in the initial position in spoken words may cause difficulty in phonics with such discriminations as "tow and so, tack and sack, Ted and said, and tick and sick." Durrell and Murphy (3) have presented experimental evidence which supports the contention that practice in discriminating sounds in spoken words is valuable training in relation to reading instruction. Training of this type is essentially an attempt to obviate auditory disabilities that have been developed by the individual prior to reading instruction.

In the early stages of reading instruction, the speaking-listening vocabulary provides two of the three elements in word identification. The pronunciation and meaning are known, and the reader must make an association between these known elements and the visual word symbol. As the reading vocabulary grows we experience a need for identifying printed words for which we do not have a pronunciation and meaning, but even the mature reader is able to identify many words in reading material that he has heard in meaningful spoken context.

The effect of listening comprehension disabilities on the ability to develop meaning in reading situations has not been determined by research. A close relationship has been indicated, however, in terms of correlation and basic abilities. Many studies have reported high correlations between reading and listening. Representative of these correlations are the .51 to .56 reported by Hall (5), the .64 reported by Pratt (9), and the .80 reported by Young (11). The abilities needed for reading comprehension have been treated in the professional literature for a number of years, and the abilities needed for listening comprehension have also been reported in recent studies. Comparison of these abilities reveals that most of the skills are common to both language reception modes.

Regardless of whether or not a one-to-one relationship between reading comprehension and listening comprehension skills can be considered a tenable hypothesis, participation in listening activities does provide a background of experience in the interpretation of language symbols. The effectiveness of listening comprehension will determine the quality of concepts developed in language experience, and the variety of these experiences will affect the range of concepts available for related reading experience. If the listener is unable to develop essential comprehension skills, this mode for language experiencing has been limited; and other language experiences will be affected.

Evaluation and remediation of auditory disabilities. The evaluation of hearing acuity has importance in relation to reading and in relation to general language development. Teachers should become aware of symptoms of hearing loss; but in many cases these symptoms may be associated with other causations (i.e., low mental ability and lack of interest, etc.). If possible, adequate information should be obtained through the administration of audiometer tests. Observation and other uncontrolled evaluation processes fall short of desired effectiveness for screening as well as for precise determination of hearing loss. Audiometer tests should be repeated at intervals to locate disabilities of recent origin.

If persons with moderate hearing losses are to remain in the regular classroom, training in lip reading and speech should be provided by the teacher or a specialist. Teachers should also adjust the seating to compensate for the hearing disabilities.

Auditory discrimination of initial consonants is commonly evaluated in reading readiness tests. It should also be evaluated at later stages in relation to other phonics elements, structural elements, and pronunciations derived from the dictionary. The individual who is able to hear the likenesses and differences in initial consonants can probably be led to make other auditory discriminations, but this should not be taken for granted. Most diagnostic reading tests evaluate abilities related to visual discrimination, but do not check auditory discrimination.

Some diagnostic tests designed for use with spesific basal readers do evaluate auditory discrimination of word analysis elements introduced in those readers. Teacher-made tests are valuable in diagnosing specific disabilities.

When specific disabilities in auditory discrimination have been diagnosed; related instruction should be provided. A prerequisite for working with sound elements, pronunciation units, and accent is the ability to hear them in words. Instructional procedure in re-teaching should be similar to instructional procedure in initial teaching. Listening for the specific sound should come first, followed by discrimination between the given sound and other similar sound elements.

Standardized tests which evaluate some aspects of the ability to interpret oral language are available. On the elementary school level the Durrell-Sullivan Reading Capacity Tests (4) evaluate the ability to identify meanings for pronounced words and certain abilities associated with the interpretation of paragraphs read orally. The Brown-Carlsen Listening Comprehension Test is useful at the secondary school level.

In a study designed to evaluate a program for the improvement of listening in grade six, Pratt (9) reported a significant gain in favor of the experimental group which received instruction in listening. The instruction provided in this experiment involved lessons related to specific listening comprehension skills. Additional research is necessary to determine the validity of relating reading comprehension skills to listening comprehension skills for instructional purposes. However, increasing listening ability will improve the language background for reading activities.

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OTHER PHYSICAL DISABILITIES IN RELATION TO READING: GOALS AND TECHNIQUES USED IN TREATMENT

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In considering the physical disabilities, other than visual and auditory, in relation to reading, one is confronted with a striking lack of data on this topic in regard to goals and treatment, particularly at the college level. Most writers dispose of the topic by saying that physical factors should be checked by experts in the field, and where remediable defects are found, something should be done about the findings.

If we agree with the concept that reading is continuous growth, it would seem that the physiological factors which affect this process have not always been given a rank of importance. Anderson and Dearborn (1) report that an early "explanation" of extreme difficulties was that these difficulties were constitutional, congenital or heredity in nature. Many pupils have learned to read successfully in spite of various physical handicaps, but some cases have been reported where the physical disability seemed to be related directly to the reading problem. Certainly the effect of physical disabilities on reading would depend on the nature of the condition or disease, but in general we may assume that physical defects impede growth in reading as well as reduce vitality and impair general health.

In an attempt to appraise the relationship between physical disabilities and reading, it seems pertinent here to list the physical anomalities that have been found in studies of poor readers. One area of causative factors in reading disability as listed by Monroe (10) is "constitutional," including difficulties in motor control, physical defects and other debilitating conditions. Low metabolism, glandular disturbances, infections, malnutrition, circulatory disorders and other physical inadequacies are given as possible factors in the causes of reading difficulties. Benjamin (3) stated that the glands that are most frequently responsible for handicapping the college student's vitality and efficiency are the thyroid, the pituitary, the gonads and the adrenals. Some writers say that severe illness may affect the reading performance. Some remedial cases have resulted from rheumatic fever and polio. Severe injuries or major operations are found in the physical history of some of the retarded readers. Although malnutrition, infections and endocrine disturbances are the three factors mentioned most often, there seems to be little evidence that these factors are frequent causes of reading disabilities.

However, Mateer (9) says that the vitamin deficiencies may have, and quite often do have, a very real relationship to reading difficulties. In a study of the blood picture in reading failures Eames (6) also indicates that anemia may be a possible contributing factor and that blood examinations merit consideration as a desirable step in diagnosing cases of reading difficulties.

The evidence regarding the relation of left-handedness and of mixed dominance to reading difficulty is not clear. Several theories of dominance have been set forth to explain reading disability, but none have been proved. Children whose hand-and-eye preferences are mixed may develop confusion in direction; the speed of reading may be retarded, and comprehension of what is read is often impaired. Writers suggest that these factors be checked in the course of a diagnostic study of an individual.

It has been the experience of reading specialists everywhere that more boys than girls suffer reading disabilities. Monroe (10) found that 84% of her failures were boys and stated, "It is probable that some of the constitutional factors which impede reading are found more frequently in boys than girls."

The preponderance of boys in reading-disability groups is a fact even at the college level. It would seem that college programs should be more carefully adjusted to meet the needs of boys.

Monroe also found that speech peculiarities are relatively frequent among inefficient readers. In disagreement with Monroe is the study of Moore (11) who found that 236 ninth-grade pupils having speech disorders of various kinds ranked above the average grade median on the Iowa Silent Reading Test leading us to believe that speech defectives as a group show no particular deficiency in silent reading.

The writer found only one report in the literature involving college students enrolled in a reading program where physical disabilities were mentioned in relation to reading. Watts (12) applied the clinical technique to a class of 20 students at Fresno State College. Six students were found to have nutritional and digestive problems; five suffered from respiratory and heart disorders; two showed glandular imbalance and two exhibited nervous disorders. Only one of these had a serious physical difficulty which could not be cured. It might be safe to assume that in other college groups a like incidence of physical disabilities could be contributing factors in reading deficiency.

The foregoing evidence indicates the absence of agreement as to the relationship that exists between such physical defects and reading, particularly at the college level. We may assume, then, that physical disabilities may be the cause of reading defects, or the result of reading defects, or that the two may exist side-by-side as a result of some common factor. Artley (2) says that there is no good reason for assuming that physical defects resulting in nervous tensions, fears, anxieties and the like should not intensify insecure conditions which resulted in reading problems. Often a vicious reciprocal relationship arises between reading failures and the physical maladjustment causing emotional turmoil and blocking. It seems that a negative attitude toward all reading helps mark the physically unfit student.

In a discussion of goals as related to the reading programs, House (8) stated that a diagnosis of reading difficulties should begin with a study of the student's body, and that teachers need to know the bodily maturity of every pupil under their guidance. In regard to treatment Betts (4) said that neither good nor poor readers should work under physical conditions which can be corrected. As Cantrell pointed out in her paper at the 1954 Southwest Reading Conference (5) the fact remains that the reading program can serve the individual only to the extent that his difficulty is understood. Not only remedial teaching, but all instruction, should according to Gates (7) be an individual prescription for individual needs. These four statements of goals as applied to the topic under consideration seem to indicate a need for better diagnostic programs in regard to the various physical handicaps and their relation to the reading problems at the college level.

Until future research brings to light more information on this subject, the writer feels that it is not practicable to try to establish a general set of objectives and techniques to be used in treatment of physical disabilities at the college level, but present evidence seems to justify the following recommendations:

1. An attempt should be made to find where each student is, not only in terms of reading ability, but also in terms

of physical development.

2. When serious difficulties are suspected because of observations and/or screening tests, cases should be referred to a specialist. Such examinations seem highly desirable and should be as complete and detailed as possible.

3. The report of the specialist should become a part of the data on the individual being studied and, where remediable, something should be done about the findings.

4. The data should be used as a basis for interviewing, counseling, and establishing rapport with the student in relation to the reading problems in particular.

5. Steps should be taken to make sure that the diagnosis of physical defects has been integrated with the reading program through two methods of attack, namely, helping the student to adjust himself, and adjusting the program to meet the needs of the student.

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DISCUSSION GROUP THREE
JUNIOR COLLEGE AND SMALL COLLEGE PROGRAMS: GOALS AND TECHNIQUES USED

Recorder's Report

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Discussion of goals and techniques for reading improvement in the programs of smaller colleges developed the view that while techniques are likely to be the most obvious aspect of such programs, these techniques do not in themselves supply an adequate basis for evaluation. Aspects that must also be taken into consideration are the purposes which the college undertakes as an institution and the special abilities of the teacher in relation to the special needs of the student.

As has been earlier pointed out in the proceedings of the Southwest Reading Conference, a great many different techniques have been worked out for improving reading skill on the college level, and all of them have been espoused as worthwhile. But these techniques are found to vary in effectiveness from one situation to another, and many teachers in the field have found a combination of techniques to be attractive. A survey of twenty-one programs reported by Dr. Wade Andrews of Tarleton State College showed that nearly all made use of text-books and manuals, and that about three-fourths made use of tachistoscopes and pacers; one third used the reading films, and a scattering few reported individual techniques such as use of a tape recorder and counting outloud to counteract a tendency to verbalize during controlled-interval exercises in perception. An especially interesting example of varied procedures is the program of Our Lady of the Lake College in San Antonio, described by Mother Angelica, in charge of the work. Here use is made of the Diagnostic Reading Test, the Stoud and Ammons manual, the tachistoscope, the SRA reading accelerator, the Rateometer, the Iowa reading films, a Balopticon in connection with a record player, tape recordings, and the Webster word wheels devised by Kottmeyer. It may not be necessary to point out that a wall clock or other timing device would be taken for granted in nearly every program. While a variety of techniques was regarded as desirable, the consensus of the group was that no program should be disparaged because emphasis is placed on relatively few techniques.

It was pointed out by Mrs. Myrl S. Worth of Odessa College that the purposes and scope of the college is a prior consideration governing the form of the reading improvement program. Some colleges emphasis the liberal arts, whereas others emphasize training for competence in technological functions. Private schools may be altogether selective in their enrollment, whereas tax-supported institutions generally are committed to a policy of admitting all serious-minded applicants. In some faculties student drop-outs are regarded as a matter for concern, whereas in other situations they are regarded as evidence that the school is performing a desirable social function in selecting the more able students for academic preferment. There is room for differences of opinion whether or not college credit should be given for reading improvement activity.

Examples of special needs of students as a factor in shaping the program were given by Dr. F. Allen Briggs, of Sul Ross State College, where a special value was found to be attached to elimination of dialect peculiarities, since students often found that a characteristic accent interefered with their earning power. Speech improvement was found to have other relations with reading also, as in the case of an individual whose stammering was relieved when he overcame his inhibitions in reading. Other illuminating instances were described by Dr. Joe West of Hendrix College, who told of one clinical subject who could overcome his inhabitions in communication only under hypnosis. Dr. West also emphasized particularly the need for student self-motivation, and with respect to this point the tenor of opinion in the group was that voluntary participation on part of the student is so far important that the automatic requirement of a reading improvement course for low-ranking students, or the equating of reading improvement with remedial work, is likely to be self-defeating. In general, it was felt that the personality and capability of the teacher is likely to be the critical factor in the success of any particular program.

EXPLORING THE GOALS OF THE JUNIOR COLLEGE READING PROGRAM

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In exploring the goals of junior college reading programs a study was made of the literature available on the subject, and of data received from twenty-one junior colleges in seven states in response to a questionnaire sent out by Dr. Wade Andrews of Tarleton State College. I would like to express here my thanks to Dr. Andrews for so generously sharing with me the results of his questionnaire.

The purpose of this study is three-fold: first, to consider procedures preliminary to the setting up of objectives of the reading program; second, to present in condensed form goals listed by twenty-one junior colleges; and third, to formulate criteria for the evaluation of the goals of the junior college reading program.

Concerning preliminary planning Dr. Kingston (5) writes: "Certain fundamental factors must be analyzed and evaluated prior to the establishment of a reading program of maximum benefits are to be derived . . . and disappointment with a program prevented." Factors to be considered might be catagorized as those having to do with the institution sponsoring the program and those having to do with the students for whom it is established.

In planning the reading program in the light of factors relative to the college, it will be found that the junior college reading program must differ from those of other colleges and universities because of the nature of the junior college itself. Based on service to the community, and established to provide post-high school education not only for the youth of the community, but for the adult population as well, the junior, or community, college must carry on three distinct programs. These programs are designed to provide general and special education needed by the students who expect to terminate their formal schooling upon graduation from the junior college; they offer a sound preparatory course for students expecting to transfer to higher institutions of learning at the close of two years work at the junior college; and finally, the junior college program seeks to meet the needs and interests of the adult of the community who desire either further general education or highly practical specialized courses. Such diversification must be taken into account when establishment of a reading program is considered. It may result in the formation of several different types of courses, such as short courses in speed reading for qualified adults, and full semester courses slated toward the acquisition of basic reading skills for the college students.

Among other factors to be considered in relation to the college are: what will be the effect of the reading program on drop-outs, or on academic standing? What is the attitude of the faculty toward the addition of a reading program to the curriculum; is it politely passive, or cooperative supportive? How shall the program be administered — will it function most efficiently under the aegis of the English, or Education, or Psychology Department? Perhaps it might be set up as a separate service? Will credit be allowed? And finally, the importance of obtaining competent personnel cannot be ignored.

Having arrived at workable conclusions concerning the factors to be considered in relation to the college, the problem of student needs must be investigated. Does a study of student opinion, faculty recommendations and test results show the need of a reading program? Should the program be required or voluntary? Will it be remedial or developmental? Will provision be made for gifted students? What diagnostic procedures will most accurately depict the individual needs of the students?

On the basis of these findings, integrated with those resulting from the study of the factors having to do with the college, a tentative program can be instigated toward the attainment of goals investigation has found to be sound.

Having considered in a general way procedures preliminary to the setting up of junior college reading program goals, specific goals listed by twenty-one junior colleges will be summarized. A study of the data contributed by these colleges revealed much accord among these reading specialists concerning their objectives with occasional difference in emphasis, depending on the type program offered. The following goals, several of which are closely interrelated, were listed:

1. Understanding the needs of the students through diagnostic procedures and individual conferences.
2. Establishment of remidal procedures more closely allied to diagnostic findings.
3. Making use of planned bibliotherapy when the need is indicated.
4. Teaching the mechanics of reading and good reading habits.
5. Teaching basic reading skills. Various specific skills listed in this category were: word attack, vocabulary development, varied reading techniques related to rate

of reading, and such comprehension skills as reading for main idea, supporting details, author's style, tone, and intent, apprehension of implied meanings, and for critical analysis.

6. Teaching good study habits and study skills.
7. Teaching listening techniques.
8. Improving the self-confidence of the reader through his demonstrated ability to make progress. In this connection the keeping of progressive records of his reading course activities by the student is advocated.
9. Cultivation of the ability and desire to read widely through an appreciation of the pleasure and value to be derived therefrom.

Having studied preliminary factors basic to a workable reading program, and having examined the actual goals set up by twenty-one junior colleges, the following criteria are now suggested by means of which the validity of the goals of a junior college reading program may be evaluated.

1. The program must be in harmony with the philosophy of the college served, and must tend to further the progress and prestige of that institution.
2. The program must result in more effective living and learning for the students involved.
3. The program should be flexibly geared to the latest findings of research concerning all the facets of the teaching of reading making use of what is applicable to a certain individual in a specific junior college.

Finally, in the over-all evaluation of the reading program goals, one further question warrants serious meditation: How do the personal qualifications of the person responsible for the program affect its degree of success? Although this subject has not been mentioned heretofore in this study, the influence of the reading teacher himself on the attainment of the goals of his program is a widely accepted fact. The September 1955 issue of **The School Review** contains an interesting account of a study on this topic, written by Dr. Helen M. Robinson.

This paper makes no pretense of having covered its subject completely — or even satisfactorily. If it has, however, provided some useful information, or provoked further thought on this matter of goals which may lead toward better reading programs, it will have accomplished its broader purpose.

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THE DEVELOPMENTAL READING PROGRAM AT OUR LADY OF THE LAKE COLLEGE

Mother Angelica

Our developmental reading program was formally begun in the fall of 1953 as an outgrowth of the first annual meeting of the Southwest Reading Conference for colleges and universities held at Texas Christian University, where presidents and deans, teachers of English, education, and psychology, and directors of counselling expressed definite concern regarding to the inability of students to read at the college level. They recognized the immediate need for special training in the field to improve the reading status of the students.

Many institutions that had reading programs in progress were detecting weaknesses in their procedures as well as in their attainments. This realization helped to strengthen the new installations in facing their sundry problems.

When we started our reading laboratory at Our Lady of the Lake College, we tried to impress our students with the fact that success in college, in the professions, and in the business world depended largely upon their ability to read intelligently. Since increase in reading ability comes from good reading habits, we stressed correct methods and techniques with the hope of attaining improvement of the five basic skills of rate, comprehension, vocabulary, reading in thought units, and in the integration of these skills.

Realizing how much our juniors and seniors had need of a reading program, we offered the course only to students at these levels for the first two years of the existence of this reading course. Frequently students expressed regret for their not having had the reading course earlier in their college life. Partly because of this but mostly because of pressing damands at the lower levels, we changed the course from the advanced level and made it available for freshmen and sophomores. To date we have no definite report of the program at these levels because crowded freshman schedules prevented their taking the course in the first semester. Classes are scheduled to meet for an hour period three times a week. Satisfactory work in the course merits two hours credit. We charge a laboratory fee and provide all materials needed in the course.

As to the administration of the course, we strive to keep the program as flexible as possible; this we find imperative in order to provide for the increasing demands for remedial work. Substitution of one training technique for another as demanded by circumstances is made possible by the rather broad framework of our program. We feel that strict adherence to one method would prove detrimental to motivation and interest in improvement. To foster advancement in reading, all materials and methods used should have an interest appeal and range from simple to complex matter.

According to the literature in the reading field, the laboratory requirements and procedures are practically the same for the small college and for the university. We use the following techniques, methods, and materials, which have been modified to the situations existing in a small college:

1. The Survey Section of the Diagnostic Reading Test, Form A.* A discussion of the results of this initial test with the students has generally impressed upon them the need for the course. If time permits, we then explain the possibilities of the course to each applicant. If pressed for time, we give the explanation to the entire group.
2. Text: **Improving Reading Ability**, a manual for college students, by James B. Stroud and Robert B. Ammons. Number recognition, letter recognition, word recognition speeded comprehension of word meanings, phrases, sentences, and direction provide good ground work for and lead up to speeded comprehension of connected text, critical reading, and discerning general significance. In addition to this basic text, we use others discriminatingly.

3. Tachistocopes. We use Stereo Optical Renshaw Tachistoscopic Trainer complete with 200 training cards for individual work and the Speed-i-o-scope on a slide projector, put out by the Society for Visual Education in Chicago, for group work. Both serve to widen the eye span and decrease the time required for comprehension. These instruments we find helpful in getting over the idea of speed and concentration, and students like them until the flashed units become too lengthy for their eye span.

4. S. R. A. Reading Accelerators, Models I and II, the first electrically operated, the second manually. Both function as training devices for the development and improvement of reading habits. A descending shutter, unless it engenders fear, stimulates interest, offers a challenge, and demands concentration. By securing effective eye movements and increased eye span, these machines tend to break the habits of word-by-word reading, regressions, and vocalizing. Special features of the new model accelerator are its light weight and its non-slip shutter.

*Form B is given at the end of the course.

5. Reading Rateometer, an Audio Visual Research product, is much smaller and lighter than the S. R. A. machines but similar in function to them.

6. Iowa Reading Films and Ampro Stylist 16mm. Projector we have found most effective in putting over the ideas of perception span, rhythmical movement, and non regressions.

7. Baloptican or Opaque Projector in conjunction with a record player provides a means for conducting vocabulary study.

8. High Fidelity tape recorder we use for practice in listening to selections and answering questions based upon the material presented.

9. The Webster Word Wheels, by William Kottmeyer, have proved very helpful in the word attack phase of remedial work.

We know that the above-mentioned machines are but aids. We tell the students that to make real improvement in reading they must also do many exercises in their basic text and other assigned books. They must push themselves in their regular reading, find out their weaknesses, and concentrate on strengthening them. The course demands time, concentration, and perseverance. We are fairly well satisfied with the results of our reading program even though we have not attained the fabulous speeds and increase in comprehension that we read about. Our average speed has reached the five hundreds from approximately an initial average of two hundred, with marked increase in comprehension in every instance. Our aim is higher speed and increased comprehension or at least no loss in comprehension.

JUNIOR COLLEGE READING PROGRAMS: GOALS AND TECHNIQUES

Wade Andrews
Tarleton State College

This is a report of a study of how various junior colleges in the United States conduct their reading improvement programs. The data presented here were obtained by means of a questionnaire survey of all of the junior colleges in the United States that reported having reading improvement programs for the regular session 1053-54, as indicated in the directory contained in the **Fourth Yearbook** of the Southwest Reading Conference. Of the forty-one junior colleges listed in the directory twenty, or approrimately forty-nine per cent, submitted information relative to the techniques used in their reading improvement programs. One other junior college, not listed in the directory, furnished information, bringing the total number of replies to twenty-one out of forty-two, or exactly fifty per cent.

With few exceptions the respondents interpreted the request for information about their techniques as being a request for a list of equipment and other materials used. In addition, several of the respondents explained how they used the equipment and other materials. Some general procedures and types of work undertaken in the programs were also listed.

Items of equipment and other materials reported were: textbook/manual, tachistoscope, accelerator, reading films, and tape recorder. The item listed with the greatest frequency was textbook/manual. This item was listed by eighteen, approximately eighty-six per cent, of the respondents. Tachistoscope was listed by sixteen, approximately seventy-six per cent. Fifteen, approximately seventy-one per cent, listed accelerator. Neither of the other two items was listed by at least half of the respondents.

These data are presented in Table I.

TABLE I

EQUIPMENT AND OTHER MATERIALS USED IN JUNIOR COLLEGE READING IMPROVEMENT PROGRAMS

Item	Number Using	Per Cent*
Textbook/manual	18	86
Tachistoscope	16	76
Accelerator	15	71
Reading Films	7	33
Tape Recorder	1	5

*Computed on the basis of 21 and rounded-off to whole numbers.

Although they were not specifically listed, apparently seven of the twenty-one junior colleges use a film projector and a screen of some sort. Also, as will be noted later, the returns indicate the liklihood of the use of a wall clock or timer in all of the programs although none were listed.

The general procedures and types of work listed by the resypondents were: individualized work, frequent timed reading exercises, frequent comprehension tests, lecture/discussion, vocabulary extension work, eye-movement exercises, concentration improvement exercises, memory improvement exercises, paragraph structures exercises and precis writing. The first three of these items were listed by all of the respondents. Ten, approximately forty-eight per cent, of the respondents reported the use of lecture/discussion; and seven, exactly one-third, listed vocabulary work. Each of the other items was listed only once. These data appear in Table II.

TABLE II

GENERAL PROCEDURES AND TYPES OF WORK USED IN JUNIOR COLLEGE READING IMPROVEMENT PROGRAMS

Item	Number Using	Per Cent*
Individualized work	21	100
Frequent timed reading exercises	21	100
Frequent comprehension tests	21	100
Lecture/Discussion	10	48
Vocabulary extension work	7	33
Eye-movement exercises	1	5
Concentration improvement exercises	1	5
Memory improvement exercises	1	5
Paragraph structure exercises	1	5
Precise writing	1	5

*Computed on the basis of 21 and rounded-off to whole numbers.

Analysis of the data from the standpoint of specific combinations of items of equipment, materials, general procedures, and types of work revealed that fourteen different combinations are used in the twenty-one junior colleges from which data were received. It was found that one specific combination is used by three of the respondents, another combination is also used by three, a third combination is used by two, another by two, and yet another combination is also used by two of the respondents. All of the other junior colleges differ by at least one item in the specific combinations of items they use. As has been indicated above, all twenty-one of the respondents have three items in common: individualized work, frequent timed reading exercises, and frequent comprehension tests. In Table III are presented data that show the various specific combinations of items of equipment, materials, general procedures, and type of work mentioned above and the number of junior colleges which use each combination.

TABLE III
SPECIFIC COMBINATIONS OF ITEMS OF EQUIPMENT AND OTHER MATERIALS, GENERAL PROCEDURES, AND TYPES OF WORK USED IN JUNIOR COLLEGE READING IMPROVEMENT PROGRAMS

Combination	Items	Number Using
1	Individualized work, timed reading, comprehension tests, textbook/manual	1
2	Combination 1 and tachistoscope	1
3	Combination 2 and accelerator	3
4	Combination 3 and reading films	1
5	Combination 4 and lecture/discussion	3
6	Combination 5 and vocabulary work	2
7	Combination 1, accelerator, and lecture/discussion	
8	Combination 1 and lecture/discussion	1
9	Combination 8 and reading films	1
10	Combination 8, paragraph structure exercises, and precis writing	1
11	Combination 2 and tape recorder	1
12	Combination 3 and vocabulary work	2
13	Combination 12, less textbook/manual	2
14	Combination 5, concentration exercises, memory exercises, and eye-movement exercises	1

As was indicated above, only one respondent reported the use of a tape recorder. In this case it was used periodically to assist the instructor and student to discover phrasing weaknesses, miscalled words, faulty emphases, etc. Also, radio- and teacher-made tapes are played to the class to indicate to the students that their level of language comprehension is actually high, even though their reading comprehension may be low. This is done chiefly for motivation.

Only one of the respondents explained his tachistoscopic technique. He starts with short one-line phrases at .01 of a second then goes to two-line phrases at .1 of a second. He also uses jokes of varying lengths with an exposure of one second. Three-line jokes are used first and the number of lines is increased by one each week until twelve-line jokes are used. The time setting is kept at one second throughout this work. The accelerator technique used by this respondent is to start the student the first day with a setting for 1,000 words per minute and never reduce the speed. He replaces the accelerator work with timed or paced reading exercises after a few weeks.

As a means to help break up attention to words and to force a set toward meaning of sentences and paragraphs the use of cover-up exercises was reported. The student is required to cover at least one-quarter of the column of print and then read the remainder of the column and make sense out of it.

To help students to overcome vocalization the practice of having them count aloud while reading was reported.

It would appear from this study that the typical, if there is such a thing, junior college reading improvement program provides for individualized work, utilizes some sort of textbook and manual or workbook, which generally are combined, involves some explanation and discussion of the problem of reading improvement, uses frequent timed reading exercises and comprehension tests over these exercises, and utilizes a tachistoscope and reading accelerators. To some extent some programs make use of reading films and give attention to the matter of improving the student's reading vocabulary.

DISCUSSION GROUP FOUR
CLINICAL PROGRAMS: GOALS AND TECHNIQUES USED
RECORDER'S REPORT

David McAllister, Arkansas Polytechnic College

Three papers were presented in section four: one by Dr. William Sheldon, one by Miss Loris DeFigh, and one by Dr. George Spache.

Dr. Sheldon presented three diagnostic techniques used to measure flexibility of reading rate, the rate of learning in vocabulary, and the ability to learn from lectures. These techniques have been developed informally at Syracuse University. Results of experiments with the first technique lead to identification of "good" readers as those who have and use a flexible approach to their reading. The "poor" reader tends to have a nearly uniform rate of reading, regardless of material and purpose. Dr. Sheldon outlined five steps in his method of measuring rate of development of vocabulary in reading. Those steps are stated in the accompanying paper by Dr. Sheldon. The third technique, that of ability to learn from lectures, is measured by means of lectures delivered from a tape recorder. Students are asked to take notes, and credit is given for the number of main ideas and specific facts noted in different lectures. The percentage of correct responses noted gives a fair picture of the effectiveness of a student in listening and taking notes.

Miss DeFigh presented differences between developmental and remedial reading, characterizing the first as requiring anticipation of difficulties and adjustment of procedures in teaching, intended to lead to prevention of difficulties. Remedial reading, on the other hand, recognizes problems and works for their correction. Miss DeFigh noted the complex pattern of reading problems. She remarked that while survey tests may indicate the level of comprehension the student can achieve, they do not always reveal the kinds of comprehension the student can achieve. Miss DeFigh noted, too, that many college students have reading problems because reading has been to them not reasoning, but mere recalling and reciting.

Dr. Spache described three diagnostic tools now used at the University of Florida, but not yet ready for publication. The first he called the Florida Reading Scale. This is an informal inventory based on oral reading and is a measure of the pupil's instructional level. This measure is based, in part, on the concept that a pupil can read beyond his apparant ability if his interest is high. This is an attempt to measure the level of potential, a level which is probably close to the MA and is not static. The second tool described is intended to serve as a measure of flexible reading and as an introduction in scanning. This is a test of silent reading, of three minutes duration, with seven questions, and with material taken from the field of insurance. Responses to the questions can show the reader the need for scanning. The third tool described by Dr. Spache is intended for children of about third grade level or below. This is an attempt to find which pupils will probably have difficulty and the probable type of difficulty they will have in learning to read. Dr. Spache said that little was ready for comment on this test.

The discussion following delivery of these three papers was general and centered upon techniques rather than goals. There was agreement upon oral reading as a valuable means of diagnosing reading ability and problems and for the necessity of surveying students' knowledge of words and methods of attacking words. Miss DeFigh described the method used by some students in their study as "defensive studying," an anticipation of difficulties rather than an attempt to develop concepts of the various subjects.

DIAGNOSTIC TECHNIQUES AND TOOLS

William D. Sheldon
Syracuse University

I shall discuss three diagnostic techniques which we have developed informally at Syracuse University. These techniques are used to measure the flexibility of reading rate, the learning rate in vocabulary, and the ability to learn from lectures. I shall describe each technique in turn hoping that it will be understood that the techniques are crude but have proven very useful.

The Flexibility of Reading Rate

Since the study of Carrillo and Sheldon which suggested the development of an instrument for measuring the flexibility of reading rate, much experimentation has been done by Braam and Sheldon in an attempt to develop a useful tool for assessing the approach each reader makes to reading.

At present we use a similar technique but change materials with different groups of students. For students with special interests and training we change the technical parts of our instrument.

For the average college student we have selected four articles from four different sources; general fiction, philosophy, or history, familiar technical and unfamiliar technical. Each selection is 1000 words in length. A stated purpose for reading precedes each selection although it is always recognized that the reader's purpose must often modify the examiner's purpose.

The reading of each selection is timed and a number of objective questions follow. The rate of reading is computed in words per minute. The comprehension is measured in terms of the percentage of correct answers.

To date we have found that students we have come to identify as "good" readers have a very flexible approach as measured by our test. Typical results gained from a "good" reader might be as follows: General fiction—500 w.p.m., philosophical—250 w.p.m., familiar technical—400 w.p.m., unfamiliar technical—200 w.p.m., all readings showing a high level of comprehension.

The pattern of a so-called poor reader might be: General fiction—300 w.p.m., philosophical—295 w.p.m., familiar technical—305 w.p.m., unfamiliar technical—285 w.p.m. Comprehension varies greatly, with general fiction usually fair, philosophical and unfamiliar technical very poor, and familiar technical fluctuating from very poor to excellent.

Students are informed of the results and what they mean to his success in reading. We have found that exercises created for the specific purpose of developing flexibility have a positive effect on the pattern of reading of the student as revealed by later testing.

Learning Rate in Vocabulary Development

Following the suggestion of Dr. Margaret Early and others we have become interested in developing a technique which gives us some understanding of the rate at which students can develop their reading vocabulary.

1. Teach ten words which are as unfamiliar to the students as you can find. The list should contain words with both concrete and abstract referents. The meaning of these words

should be taught as well and as dramatically as possible.

2. After the direct teaching of the ten words, these words should be presented out of the original order. As each word is presented, either orally or in written form, the students write the meaning they associate with the word. A score is derived from the number of correct meanings.

3. The next day test knowledge of the words again, without warning. Two approaches are used. First the words are pronounced and the students write them. Then the teacher writes the words on the board in order to insure correct spelling. Then the student again writes the meaning which he associates with each word.

4. A week later test again in the manner described above, again without warning.

5. Average the three total scores achieved on the tests. This gives one a rather rough but effective idea of the number of words each student can learn in a week.

Learning from Lectures

While the ability to learn from lectures is a related rather than a specific reading skill, we have found it necessary to ascertain the ability our students have to learn from lectures as a base for teaching them to improve in this skill.

We have developed several lectures on tape concerning topics within the interest and study areas of our students. One lecture concentrates on developing several main ideas, while another is concerned with the development of a number of related but specific facts.

On successive days the lectures are delivered and the students are asked to take notes in their usual manner. Credit is given for the number of main ideas noted on the first tape and the number of specific facts noted in the second. Credit is only given for those main ideas and specific facts designated by the instructor. The percentage of correct responses gives a fair picture of the effectiveness of the present note taking ability of each student.

These three techniques are but a few of the many which our instructors have found valuable in diagnosing the reading and study skill status of our students.

DIAGNOSTIC TECHNIQUES AND TOOLS

Loris DeFigh

University of Tulsa

Perhaps the principal difference between developmental reading and remedial reading is that in the first, possible problems are anticipated and teaching procedures are so determined to prevent them, while in remedial work the problem is there, recognized as such, and teaching procedures are devised to correct it. However, since problems develop from so many different sources and in so many ways, corrections cannot be devised on the simple basis of the procedure "if this exists, do that."

Like a doctor, probing to discover symptoms and existing complications, so the diagnostician attacks the "reading problem," probing for the places where weaknesses exist.

A reading problem is a complex pattern of interwoven difficulties in language control, each affecting the other and the unraveling must take place before understanding of what is needed is clarified.

Weaknesses must be identified specifically if they are to be strengthened in the remedial program. This identification of specific needs is one of the first problems in the diagnostic process.

Often the clue to areas of need lie in the general survey test of basic reading power. While this test reveals the low reading status of the individual, comparatively speaking, a more useful revelation is in the individual scores of test items. Careful examination of the breakdown scores often show areas where more careful analysis should be made. The survey test of general achievement becomes the initial tool to not only show up the existence of the problem but present the first leads to more specific things about it.

Suppose the survey test shows low scores in vocabulary. Then the diagnostician must clarify these points: Are the scores consistently low in all areas of vocabulary, or are they centered in certain areas in contrast to perhaps a high score in one or two specific ones; mathematics and science as compared with social studies and literature, for example.

On the other hand, suppose scores are high in vocabulary test items where meaning of the word is identified, but his comprehension score in context is low. One asks at this point, has there been too much word study of words, and not enough study of words **together**? Meaning is arrived at by putting words together, not taking them apart from each other.

Sometimes vocabulary scores are low because the individual simply could not identify the word he was being ask to define. The problem of identification is easiest, when the student reads orally. Perhaps it is not too old-fashioned to state that the best way to find out how a person reads is to hear him do it. Gross inaccuracies in word recognition stand out in sharp relief and beg for attention in the clear light of oral performance. It is entirely possible that a program of vocabulary building needs some firm backing up in simple basic word-attack skills of the elementary school. Diagnostic appraisal must examine these skills, determine the deficiencies that make it difficult for the student to identify the terms correctly. Without accurate identification of terms, ideas cannot be built.

Survey tests show in general the level of comprehension that the student can achieve. They do not always reveal the **kinds** of comprehension the students achieve. To simply know by numerical score how much understanding a student can "get" is not enough. More important, what kinds of comprehension can he "make" of what he has?

The student who has over the years thought of comprehension and rote recall as synonymous, must be reconditioned to perceive a simple idea, construct a flow of thought, and organize it into varying patterns according to purpose. It would seem that diagnosticians would need to examine carefully in comprehension tests, the kinds of questions missed. Does the student consistently recall details but always miss questions that identify main ideas? Does he remember all the facts that are stated but seem to perceive no inferences suggested slyly by the author? Does he read all the words but miss the imagery they are attempting to create? (The student who says "I hate poetry! It doesn't make sense!") Does he recall the ideas but cannot put them into any organized pattern? Can he sense sequence? Can he see the relationships between a point and its supporting details? Can he evaluate an idea as to appropiateness, importance, reasonableness, validity? Can he classify, generalize, and draw conclusions from the ideas expressed? Many college students have reading problems because reading has been to them not reasoning in thinking, but mere recalling and reciting.

So far, these problems have been largely in the handling of the verbal terms. For many students, more concrete methods must be employed for clarification of a concept. Careful analysis of the students' use of study aids such as the reading of charts, graphs, and other illustrative material is important. There are many good tests of study techniques available. They give excellent insight into the students' ability to use indexes, dictionary, tables, graphs, maps, special references and library aids.

Reading problems stem from many causes. Some have their roots in psychological disturbances, some are due to intellectual limitations, but for too many are due to lack of command of educational tools, plus failure of lazy minds to respond to intellectual stimuli that to them is often dull, purposeless and without challenge.

The teacher teaches and examines — then reteaches when necessary. The diagnostician examines and re-teaches. But both essentially strive to the same goal — that of reading competence for the student.

DIAGNOSTIC TOOLS

George Spache

University of Florida

Three new instruments have been developed at the University of Florida. The first of these is called a test of Reading Flexibility and is intended for use with college students and adults. Three types of reading are demanded in attacking one reading selection. First, the reader is to attempt to cover the entire article in three minutes in order to answer a number of general questions. This part measures his skill of skimming. Secondly, the reader is to find the answers to a number of detailed questions as quickly as possible, as a measure of his ability at scanning. Finally, the third task is to read the complete selections to answer further questions.

Preliminary use of the test indicates that it discriminates markedly between the average, inflexible reader and the trained, skillful reader. Moreover, the experience of attemping to use three distinctly different reading techniques in handling one piece of reading matter brings home sharply to the average reader a recognition of his own inadequacy. The authors of this test are willing to loan copies for trial use in exchange for normative data.

A second instrument is the Florida Reading Scales, a new series of tests for individualized evaluation of the reading abilities of elementary school pupils. By the use of a series of carefully scaled reading selections, the pupil's oral reading abilities are measured and designated as the Instructional Level, or that at which basal or classroom reading instruction should be given. The pupil's silent reading abilities are then sampled by selections of increasing difficulty until an Independent Level is established. This is designated as the functional level of adequate silent comprehension in recreational and independent reading. A third testing with successive selections evaluates the pupil's auditory comprehension. The maximum level at which he can function adequately is designated as the Potential Level. This evaluation of the pupil's comprehension of spoken language is considered indicative of the potential level at which he could function in reading, with appropriate instruction.

The Florida Reading Scales have been tried out with over 600 school children of the first eight grades during a period of over two years. Norms, a manual of detailed directions, and suggestions for interpretation are being formulated in the hope that the scales will prove suitable for commercial publication.

The third instrument is a Learning Methods Test studied in the doctoral project of Robert E. Mills of Fort Lauderdale. This test involves an attempt to discover which of four possible methodological approaches to primary reading is likely to prove best for an individual pupil. The pupil's knowledge of a series of equated words is first measured. Then he is taught ten different unknown words by each of the visual, auditory, or phonic, kinesthetic, and combined methods. Immediate and delayed learning are measured after each lesson. Comparisons of the pupil's delayed learning by each method are then made, and the most appropriate method chosen for him, if significant differences appear.

Use of the Learning Methods Test has been contrasted in seven and nine year olds, in the bright, average and dull intelligence groups, and in the case of boys versus girls. Although no one method is significantly better for all types of children, some methods appear to succeed markedly better with some individuals, according to differences in intelligence and learning aptitude. The Learning Methods Test and its materials are obtainable from Dr. Robert E. Mills, Mills Educational and Testing Center, 319 S. E. 6th St. Fort Lauderdale, Florida.

APPENDIX

AN ANNOTATED BIBLIOGRAPHY OF COLLEGE READING MATERIALS, 1950-1955

Ralph C. Staiger
Mississippi Southern College

Anyone who has taught reading to college students has been impressed with the number of publications in the field which have appeared during the past few years. This bibliography is an attempt to list, with comments, those which have been published since 1950.

All of the useful materials which are available for use in college reading classes are not included in this list, for many of the good books which were published before 1950 are still available. One of these is being revised and will be reissued in 1956: Stroud and Ammons' **Improving Reading Ability.** In addition, many high school reading books are helpful with retarded college readers.

In general, there are five types of books included: Textbooks and workbook-textbooks in college reading; "How to Study" manuals; a few college orientation books which devote space to reading and study techniques; some books which were primarily designed for adult reading improvement rather than specifically for college use; a few high school readers which have been successfully used in college classes. Professional books, such as McCullough, Strang, and Traxler's **Problems in the Improvement of Reading** are not listed.

The author appreciates the cooperation and help he received from many publishers and from Dr. Emery Bliesmer, Dr. Oscar Causey, Dr. David McAllister, and Dr. Roy Sommerfield, who made suggestions for the inclusion of materials. For pertinent materials not included and for the annotations, the author must take full responsibility.

Air Command and Staff College. **Studying to Learn.** Maxwell Air Force Base, Alabama, 1955.

A revision of an earlier Air Force "How to Study" manual, prepared in response to a demand from Air Force officers returning to academic study after an absence. Students are urged to use a system for studying, and the 3R system is advocated: Reconnaissence — Read — Recall. The entire manual is well organized and presented. Cartoons drive home many important points.

The Atlantic Guide to Better Reading Skills, from October 1951.

A reading guide to the Educational Edition of **The Atlantic,** this monthly pamphlet emphasizes one skill each month, and offers exercises and comprehension checks based on stories and articles in the magazine.

Baker, William D. **Reading Skills.** New York: Prentice-Hall, 1953.

A consumable book which includes chapters on study skills and evaluative reading skills, this is a comprehensive and well balanced text. The materials are relatively easy, and can be used for two purposes: as a source of information about reading improvement and as speed reading exercises. An instructor's guide and key is available.

Barnhart, T. A., Donnelly, William A., and Smith Lewis C., Jr. **Viewpoints.** New York: Prentice-Hall, Inc., 1954.

The subtitle of this text, planned for use in Freshman English or Communication courses in "Readings for Analysis." Four types of exercises are included for each article: Comprehension questions, words useful to know, writing techniques, and discussion questions.

Blair, Walter and Gerber, John. **Factual Prose.** New York: Scott, Foresman and Company, 1955.

The third edition, this book contains suggestions to the reader and excellent selections to illustrate two general types of reading: "Following Explanation and Argument" and "Evaluating Factual Prose." A group of selections dealing with problems of the modern world make up half the book, and a short student's handbook containing hints on interpretation in reading is included.

Brown, James I. **Efficient Reading.** Boston: D. C. Heath & Company, 1952.

A wide variety of materials is included in this workbook. The selections are arranged in each section according to the Flesch "Reading Ease" formula, start at the sixth grade level and extend to college senior and beyond difficulty. In general, the selections are of "popular" interest, with emphasis on communication skills. Objective comprehension checks include separate scores on "receptive" and "reflective" comprehension, as well as exercises of various types which involve originial work. Self-help and independent judgement based on direct observations are encouraged throughout the book. In preparation is an alternate edition, which will be similar in format but will contain different selections.

Center, Stella S. **The Art of Book Reading.** New York: Charles Scribner's Sons, 1952.

This book is for adults who are good readers but who wish to gain insight into the art of reading and acquire greater mastery in this art. The program of action outlined is based on the author's experiences in conducting adult reading classes at New York University. Included are "How to read" chapters for paragraphs, sentences, short stories, novels, drama, essays, etc. Suggestions for activities are included, but no specific exercises are given.

Chandler, John R. & Beamer, George C. & Williams, Charles C. & Armstrong, Vernon L. **Successful Adjustment in College.** New York: Prentice-Hall, Inc., 1952.

Although it is primarily an orientation manual, one part of this book is devoted to "Acquiring the Basic Study Skills." Unit Ten deals with reading. Several exercises, and brief discussions related to reading are included.

Cosper, Russell & Griffin E. Glenn. **Toward Better Reading Skills.** New York: Appleton-Century-Crofts, 1953.

Thirty reading selections varying in style, subject matter, and written at three levels of reading difficulty comprise this book. Objective tests, questions for further discussion, and difficult words from the selection are suggested for study. A developmental reader, it is en for use with intensive reading courses or in conjunction with another course — English, Communication, etc. Four progress tests are included, and handy conversion tables for computing speed of reading.

Dallman, Martha and Sheridan, Alma. **Better Reading in College.** New York: The Ronald Press, 1954.

This text-workbook contains both suggestions to students for developing important reading skills and exercises through which the skills are developed. For the most part, the materials are college level, and deal with the social sciences, natural sciences, and the humanities. A carefully worked out instructor's manual is available.

Carter, Homer L. J. & McGinnis, Dorothy J. **Building a Successful College Career.** Dubuque, Iowa: William C. Brown Company, 1950.

Essentially a workbook designed to help a student adjust to college, this book includes two assignments on reading and vocabulary improvement. Guidance in personal problems make up the greater part of the sixteen remaining chapters. Three assignments on note-taking, preparation of assignments, and examinations are also included. Specific activities are emphasized throughout.

Davis, Earle and Hummell, William C. **Readings for Opinion.** New York: Prentice-Hall, Inc., 1952.

A communications text designed to develop language skills vocabulary lists and comprehension checks follow each article of a good collection. In some cases, "In my opinion" leads to writing are provided.

Gilbert, Doris Wilcox. **A Manual for Developing Power and Speed in Reading.** Berkeley, California: California Book Company Ltd., 1954.

An extremely comprehensive reading manual for college class or individual adult use. The book is divided into twelve sections of varying lengths, each of which contains several ingenious exercises designed to improve basic reading skills, an article with a thorough comprehension test, and a final test of rate and comprehension. Suggestions for extended reading are offered. In the appendix, space for test scores is available, as well as an answer key and reading rate progress charts for four different types of reading activities. A vocabulary growth record is also included.

The first section includes preliminary tests of information, vocabulary, and rate-comprehension. Parallel forms of these tests are in the last section.

Glock, Marvin. **The Improvement of College Reading.** Boston: Houghton-Mifflin Company, 1954.

Thirty exercises, each with three reading selections and a vocabulary development section comprise this book, designed for use in a college reading course or the reading section of a freshman English course. Short, interesting selections are introduced by paragraphs suggesting the purpose for the reading, and are followed by objective questions. Rapid reading, reading to answer a problem, main ideas and details, skimming, organizational pattern, and tone and intent exercises are included. An instructor's key is available.

Goldston, Iris. **A Word Study.** Houston, Texas: Ned Gill and Company, 1953.

The first four chapters of this looseleaf workbook deal with word derivations, syntax, spelling, and introductory matter. There follow various types of vocabulary exercises, designed to show the student the inter-relationships between words. No source of words used is suggested, nor is a recommended level given. It is possible that some college freshmen can use this book with profit.

Hart, Mark. **4-Star Collegiate Word Power Tester and Builder.** Logan, Utah: Markhart Educational Service, 1952.

Designed for high school or college use, this vocabulary practice book presents 3200 non-technical words, which are to be matched with their dictionary definitions. An answer key is bound into the book, and the index is also a pronunciation key.

Hardwick, H. D. Words Are Important (Introductory Book, Books 1, 2, 3, 4, 5, junior and senior Books. New York: C. S. Hammond and Company, 1953, 1955.

Based on the frequency of occurrance in Thorndike and Lorge's **Teacher's Word Book of 30,000 Words,** this series of booklets presents vocabulary exercises of increasingly difficult levels. Space for definitions, use of words in context, and review exercises are included in each lesson.

Hayford, Harrison — Vincent, Howard P. **Reader and Writer.** New York: Houghton-Mufflin Company, 1954.

This freshman English anthology contains many fine essays. Part One, included three subdivisions: "Reading as Pleasure and Work," "Some Readers at Work" and "Readers and College Life" which contain excellent reading materials for college students. There is much good reading throughout the book. No comprehension tests, but a number of study questions and theme topics are included.

Herr, Selma E. **Effective Reading.** New Orleans: Tulane University Reading Laboratory, 1952.

A twenty-lesson workbook with primary emphasis on increasing speed of reading. A vocabulary section, with exercises in word derivation is included in each lesson.

Jones, Everett L. **An Approach to College Reading.** New York: Henry Holt and Company, 1955.

A collection of essays of high interest for college freshmen, this book includes a comprehension check and vocabulary test for each essay. The vocabulary test is unique, because the words are presented in context. Mimeographed answer keys are available for both the First Edition and the Alternate Edition.

LeCount, S. N. and Bamman, H. A. **How to Improve Your Study Habits.** Palo Alto, California: Pacific Books, 1953.

A thirty-two page booklet which contains many helpful study suggestions.

Judson, Horace. **The Techniques of Reading.** New York: Harcourt, Brace and Co., 1954.

A test-workbook based on the experiences of teachers in a private adult reading laboratory, this book offers a comprehensive reading improvement course for adults. Pre-reading is emphasized as a technique for surveying the content and organization of most prose. A businesslike attitude prevails.

Lewis, Norman. **How to Get More Out of Your Reading.** Garden City, New York: Doubleday & Company, Inc., 1951.

This "how-to" book presents many useful ideas about reading improvement, and contains much adult interest practice material. It is wisely suggested that an adult who wants to improve his reading use familiar, pleasure-producing materials at the outset, learn to recognize and use the author's organization pattern, and explore new areas so long as the demands made by the materials are reasonable.

Lewis, Norman. **How to Read Better and Faster.** New York: Thomas Y. Crowell Co., 1951.

The second edition of a best-selling reading improvement book, this volume has much that can be used in college reading classes. It developed from the author's experience in a college-adult reading laboratory.

McEwen, Gilbert D. **How to be a Better Speller.** New York: Thomas Y. Crowell Company, 1951.

A popularly written self-help book, this stresses the ten basic spelling faults, finding the best learning approach, and troublesome words.

Meenes, Max. **Studying and Learning.** Garden City, New York: Doubleday & Company, Inc., 1954.

A relatively high-level discussion of study methods directed toward college students.

Morgan, Stewart S., Hays, John Q., and Ekfelt, Fred E. **Reading for Thought and Expression.** New York: The Macmillan Company, 1955.

A collection of prose selections, designed for use in English composition classes, but useful in college reading classes because of the varied nature of the selections and high standard of quality represented. Questions on the context and style, word lists for study, and suggestions for writing are appended to each essay.

Orchard, Norris Ely. **Study Successfully.** New York: McGraw-Hill Company, 1953.

A simply written but comprehensive study manual. In addition to excellent chapters on planning, note-taking, library use and examinations, two chapters merit mention: one on "Your Point of View," a realistic analysis of attitudes, and a chapter called "Studying on Your Own," emphasizing the need for continuing study throughout life.

Palmer, Osmond E. and Diederich, Paul B. **Critical Thinking in Reading and Writing.** New York: Henry Holt and Company, 1955.

Developed from U.S.A.F.I. English tests and a "remedial English" program, the reading selections of this workbook are excellent exercises in critical reading. Varying numbers of questions are asked about relatively long selections. The reading exercises comprise one third of the lessons in the book, most of which is devoted to writing. No concern with speed of reading is manifest. Pre-and post-tests are available.

Powers, Francis F. & Corbally, John E. **How to Improve your Reading.** Seattle, Washington: John E. Corbally, University of Washington, 1950.

A discussion of the psychology of reading, types of reading, with a short selection on reading improvement. The stated purpose is to acquaint students with the nature of the reading task as a starting point in reading improvement.

Powers, Francis F. & Corbally, John E. **How to Study and Like It.** Seattle, Washington: John E. Corbally, University of Washington, 1951.

An eight-page pamphlet with illustrated discussions of twelve factors in study. Brief, readable, and suggestive of study improvement.

Pressey, Benfield & Bear, Robert M. **Reading for Comprehension.** New York: Charles Scribner's Sons, 1951.

An excellent collection of readings for college students, each followed by "problems" designed to improve comprehension skills. The "problems" suggested are useful for class discussion, and include speaking and writing exercises.

Robbins, A. Allen. **Word Study for Improved Reading.** New York: Globe Book Company, 1954.

A vocabulary development book which might be useful for poor college students.

Sanderlin, George. **College Reading.** Boston: D. C. Heath and Company, 1953.

In the author's preface to this freshman English book, he sets forth the two simple purposes of the text. One pertains directly to reading: to furnish entertaining and well-written selections so that the college student will be introduced to reading for pleasure. Discussion questions follow each selection.

Shaw, Harry. **A Collection of Readings for Writers.** New York: Harper and Brothers, 1955.

A freshman English text, with a collection of selections which represent good writing. The introductory "Note on Reading" emphases reading from the point of view of the writer. Discussion type questions and theme subjects follow each selection.

Shaw, Phillip B. **Effective Reading and Learning.** New York: Thomas Y. Crowell Company, 1955.

A textbook for college reading improvement containing suggestions for becoming a versatile, competent reader and many short exercises. Chapters on study techniques are included, together with a vocabulary check list and a periodic testing program.

Sheldon, William D. & Carrillo, Lawrence W. **College Reading Workbook.** Syracuse: Syracuse University Press, 1953.

A practice book with 36 articles of varying length and comprehension tests. The emphasis is on improving rate of comprehension through practice. A short statement of purpose precedes each article.

Simpson, Elizabeth A. **SRA Better Reading Book.** Chicago, Illinois: Science Research Associates, 1951. Books I, II, and III.

Three practice books with 1350 word articles and comprehension checks. Designed for use with a reading accelerator, they are equally useful without the machine for high school or college students. An instructor's manual is available.

Spache, George and Berg, Paul. **The Art of Efficient Reading.** New York: The Macmillan Company, 1955.

This textbook for reading improvement courses is divided into three parts: Learning New Ways to Read, Tools for Vocabulary, and Reading in the Content Fields. The skills are discussed, and practice materials provided in each chapter. Two editions are provided, the classroom edition without answers, and the regular edition with an answer key. An instructor's guide is available.

Sommerville, John. **The Enjoyment of Study in School or On Your Own.** New York: Abelard-Schumann, 1954.

The pleasures of being a student are discussed, followed by a series of "how to" chapters on reading, note taking, research, oral and written reports, review, and examinations. In the appendix, examples of student's difficulties and how they were solved are given.

Stadtlander, Elizabeth. **Planning to Study Effectively.** St. Louis: Educational Publishers, 1950.

A study manual with many practical suggestions and practice exercises. References for each chapter are useful for the instructor.

Staton, Thomas F. **How to Study.** Nashville, Tennessee: McQuiddy Printing Co., 1952.

The original Air Force study manual, this presents the PQRST method of study: Previewing, question, read, state, test. Instructor's guide available.

Strang, Ruth. **Study Type of Reading Exercises,** College Edition. New York: Bureau of Publishers, Teachers College, Columbia University, 1951.

A series of thousand-word articles presenting information about reading and study methods and offering practice with the same article. Teacher's manual and answer key available.

Weber, Christian O. **Reading and Vocabulary Development.** New York: Prentice-Hall, Inc., 1951.

Ten sets of reading exercises and twenty word-study projects are included in the thirty chapters of this workbook. Designed for group or individual use for high school seniors, college freshmen, and laymen in general. Initial and final reading and vocabulary tests are included.

Witty, Paul. **How to Become a Better Reader.** Chicago: Science Research Associates, 1953.

Twenty lessons, each of which includes a "How Can You—" discussion, short illustrative readings, a longer general reading exercise, and a vocabulary test. A reading progress record is included, and a time-to-rate table for the general reading exercise. The exercises are relatively easy interesting articles followed by twenty questions.

Weigand, George & Blake, Walter S., Jr. **College Orientation.** Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1955.

Subtitled "A Study Skills Manual," this workbook provides informational material for freshmen. Can be used individually or in class.

Wise, J. Hooper, Congleton, J. E., and Morris, Alton C. **The Meaning in Reading.** New York: Harcourt Brace, 1953.

A college English text, the third revision of an excellent collection of essays. An exercise manual contains "main idea" comprehension checks, analysis questions, a vocabulary extension section, and suggestions for further reading and writing. The appendix of the manual includes charts for recording reading speed and progress and conversion tables.

Works, Austin M. **Elementary Vocabulary Builder.** Cambridge, Massachusetts: Manter School, 1952.

A vocabulary workbook which utilizes several different types of exercises to stimulate interest in and the use of words. Considerable emphasis on derivations. Useful with earnest college students.

Wrenn, C. Gilbert and Cole, Luella. **Reading Rapidly and Well.** Palo Alto, California: Stanford University Press, 1954.

A revised edition of a useful pamphlet.

A REPORT FROM ETHIOPIA CONCERNING THE ENGLISH READING ABILITY OF NINTH AND TENTH GRADES

Albert J. Kingston*

Between June 14 and June 27, 1955 a survey was made of the English reading skills of students enrolled in the academic secondary schools of Addis Ababa. During this period the **Survey Section** of the **Diagnostic Reading Test (Form B)** was given to as many ninth and tenth grade students as possible. A total of 379 ninth grade and 137 tenth grade pupils were tested. Although the original plan was to test all secondary school students, scheduling difficulties prevented this from being done. A sufficiently large number of students were tested, however, so that these results are significant and may be interpreted with confidence.

The **Survey Section** of the **Diagnostic Reading Test** was employed in this study because it is one of the better reading measures available today. It probably is the reading test which has widest use in the United States today. The instrument yields three scores: (1) readting rate, (2) vocabulary and (3) reading comprehension. The entire test can be administered in approximately one hour.

Analysis of the results of this testing program reveals that:

1. A wide range of reading abilities exists within each of the classes tested and within the ninth and tenth grades in general. If the wide range of reading skills were to be interpreted in terms of grade levels of achievement, the differences would represent a range of four or five grades. The range for each school and for the entire ninth and tenth grades is illustrated by Tables 1 through 6 found in the appendix of the report. Within the ninth grade, some students were found to be far better readers than the average tenth grade students although the average tenth grade student was slightly better than the average ninth grader. Almost one-fourth of the ninth graders, however, read faster than the average tenth grade student. Similary 30 per cent of the ninth grade students understand what they read better than the

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average tenth grade student. On the other hand, many tenth grade students read more poorly than the average ninth grader. Exactly 41.6 per cent of the tenth graders tested scored lower than the ninth grade average in rate of reading, 28 per cent achieved a lower score in vocabulary than the ninth grade average, and 45.3 per cent attained a lower comprehension score than the ninth grade average.

2. The mean (arithmetic average) scores on each section of the reading test, i.e., rate, vocabulary, and comprehension were significantly lower than those obtained by American students who were at the same grade level. The mean scores obtained by Ethiopian ninth graders were compared to a norm of 6411 American ninth graders. It was found that the Ethiopian mean fell at the 13th percentile in rate, 9th percentile in vocabulary and 4th percentile in comprehension. Expressed in other way, the average ninth grade Ethiopian reads no faster than the bottom 13 per cent of American ninth graders, and comprehensions no better than the lowest 4 per cent of Americans. The Ethiopian vocabulary scores are no higher than that of the lowest 9 per cent of American ninth graders.

   Although the tenth grade Ethiopian students attained slightly higher scores than did the ninth graders, their scores were inferior to those of American tenth graders. When the Ethiopian tenth grade mean (arithmetic average) was compared to a norm based upon 6874 American tenth graders, it was found that the Ethiopian mean in reading rate fell at the American 16th percentile. The mean Ethiopian vocabulary tenth grade score fell at the American 12th percentile, and the mean Ethiopian comprehension score fell at the 6th percentile. These results indicate that the average tenth grade Ethiopian student reads at about the rate of the lowest 16 per cent of American tenth graders. His vocabulary score is no better than the lowest 12 per cent of Americans and his reading comprehension is comparable to the lowest 6 per cent of American tenth graders.

In order to point out further the differences between the reading skills of the average Ethiopian student and the average American student, the scores attained by Ethiopian ninth and tenth graders were compared to an American seventh grade norm. (The seventh grade norm was chosen because it represents the lowest grade level on which this test was standardized). This comparison revealed that the average American seventh grader tended to be a superior reader to the Ethiopian ninth and tenth graders. Among Ethiopian ninth graders, 68 per cent read at a slower rate than the average American seventh grader. Almost 70 per cent scored lower on the vocabulary section and 93 per cent received lower comprehension scores. Similarly among Ethiopian tenth graders, almost half (49.6 per cent) read slower than American seventh graders, 44.6 per cent received lower vocabulary scores, and 87 per cent received comprehension scores which were lower than the American seventh grade mean.

One may wonder why the scores achieved by Ethiopian students are compared to those of American students. While it must be recognized that there are language differences which will affect the English proficiency of Ethiopian students, it also should be recognized that in the middle grades as well as in the entire secondary school program, Ethiopian students are taught with texts and materials comparable and even identical to those used with American and Britis children.

In addition to the objective results obtained by the testing program, additional benefits were derived from this reading survey. The program provided the remedial instruction staff with an opportunity to enter the secondary schools and to observe the reading methods of many different students. In every class and school which was visited faulty reading techniques were readily observed. The majority of students vocalized or moved their lips as they read. Some classrooms even buzzed like beehives. Many students resorted to the use of their fingers or their pencils as an aid to proper eye movement as they scanned a line of print. A large group of students were unable to perceive more than one word at a time. Numerous other faulty types of reading mechanics also were noted. All of these factors point out a real need for assistance in reading improvement.

As a result of this brief survey certain conclusions must be made.

1. These results reveal a genuine need for developing a program which is designed to improve the reading skills of children in the Addis Ababa schools. Such a program should have two major goals. First, some type of develop-

mental program should be inaugurated which is designed to improve the general reading ability of all students in the schools. Secondly, the wide range of reading skills within each class and grade points out the need for remedial assistance for those in the lower quarter of each group. Special remedial assistance and the application of modern individualized reading instruction will assist many students in improving their reading ability within the space of a few months time.

It seems to me that such a dual program might start with providing special assistance to and training of the teachers in the schools. Workshops or special courses which are designed to assist the teachers in the school situation, and which will provide specific and concrete help with reading problems appear to be one of the better approaches.

2. The results of this survey point out the need for a careful study of the curriculum of the schools, particularly to the suitability of the texts being employed. Because of the wide range of reading ability within each grade, it is likely that many students will wind the prescribed textbook too difficult. At the same time, however, superior students would benefit from an enriched program of reading. The remedial education staff would be glad to undertake a study to determine the readability level of each textbook used in the schools.
3. It must be concluded that the **Survey Section** of the **Diagnostic Reading Test** which was designed for use with grades 7 through college freshmen represents too difficult a test for many Ethiopian students. These results indicate that many Ethiopian students do not read at a level of skill comparable to the American seventh grades. Additional experimentation with lower level tests or a midification of this instrument may prevent a piling up of scores at the lower level.

COLLEGE READING PROGRAMS IN THE NATION

Oscar S. Causey
Texas Christian University

A survey was made during the session of 1954-55 to determine the extent of development of reading programs in colleges and universities in the United States. The report was published in the Fourth Yearbook of the Southwest Reading Conference. A similar survey for the session 1955-56 has been completed.

In the recent survey questionnaires were sent to all senior colleges and universities and to a representative list of junior colleges. Replies were received from five hundred seventy five colleges in forty five states and the District of Columbia. Four hundred eighteen institutions reported reading improvement programs in progress as compared with two hundred sixty-eight a year earlier. Enrolment in courses was reported as 57,052 students as compared with 33,431 a year earlier. The distribution by states for the two years is shown in Table I.

TABLE I

State	No. of Institutions 1954-55	No. of Institutions 1955-56	No. of Students 1954-55	No. of Students 1955-56
Alabama	2	5	480	1035
Arizona	1	2	200	60
Arkansas	9	8	762	762
California	34	53	4511	7925
Colorado	5	5	1610	825
Connecticut	3	7	202	785
District of Columbia	1	3	51	225
Florida	4	6	927	1890
Georgia	6	4	445	420
Idaho	0	2	0	75
Indiana	9	18	3326	5800
Illionis	14	31	1237	2980
Iowa	6	19	753	2570
Kansas	7	9	739	805
Kentucky	2	5	122	125
Maine	0	6	0	800
Maryland	1	9	25	520
Massachusetts	7	13	677	1400
Michigan	13	17	2309	3880
Minnesota	8	10	408	650
Mississippi	2	2	275	330
Missouri	9	12	482	925
Montana	0	3	0	80

TABLE I (Continued)

Nebraska	1	5	241	810
New Hampshire	1	6	510	840
New Jersey	6	5	530	195
New Mexico	3	1	158	60
New York	15	26	1475	4035
North Carolina	7	5	519	295
North Dakota	2	1	400	50
Ohio	2	17	1843	2260
Oklahoma	10	10	1278	1200
Oregon	4	6	795	1025
Pennsylvania	16	16	1372	2380
Rhode Island	0	2	0	230
South Carolina	1	4	100	240
South Dakota	0	4	0	260
Tennessee	5	7	323	340
Texas	26	28	2630	3130
Utah	2	3	656	240
Virginia	5	7	255	2810
Vermont	1	1	0	100
Washington	6	6	210	750
West Virginia	1	3	65	275
Wisconsin	4	3	241	200
Wyoming	2	3	210	350
TOTALS	**268**	**418**	**33,431**	**57,052**

The titles of courses were reported as follows: Reading Improvement 221, Developmental Reading 66, English 54, Reading Laboratory 51, Not Given 34.

Departments responsible for instruction in the courses were reported as follows: English 126, Education 122, Psychology 48, Reading Clinic 21, Communications 10, Humanities 5, Not named 86.

The length of courses was reported as follows: More than eighteen weeks 16, eighteen weeks 99, sixteen weeks 67, twelve weeks 70, ten weeks 29, nine weeks 10, less than nine weeks 54, not reported 73.

Credit allowed was reported as follows: five hours 4, three hours 42, two hours 48, one hour 48, no credit 132, not reported 144.

The number of class meetings per week was reported as follows: one meeting per week 45, two meeting 176, three meetings 109, four meetings 21, five meetings 19, not reported 48.

Use of workbooks and manuals were reported as follows. For additional information about many of these publications see page (124) in this volume. Baker, William D. 55, Cosper & Griffin 11, Brown, James I. 37, Case, Vardaman & Wilcox 5, Dallman & Sheridan 6, Gilbert, Dorothy 3, Glock, Marvin 48, Hovius, Carl 2, Jones, Everett L. 7, Judson, Horace 29, McCall, 11, Lewis, Norman 46, Perry & Whitlock 14, Shaw, Phillip 12, Robenson, Helen 13, Sheldon & Carillo 3, Simpson, Elizabeth 56, Smith, Henry P. 2, Spache & Berg 9, Strang, Ruth 48, Stroud & Ammons 38, Traxler, Arthur 2, Triggs, Frances 14, Weber, Christian 3, Wilking & Webster 20, Wise 5, Witty, Paul 59.

The use of instruments was reported by institutions as follows: reading pacers, tachistoscopes and reading films 94, pacers and tachistoscopes 94, pacers and films 39, tachistoscopes and films 16, pacers only 70, tachistoscopes only 14, films only 18, none 46.